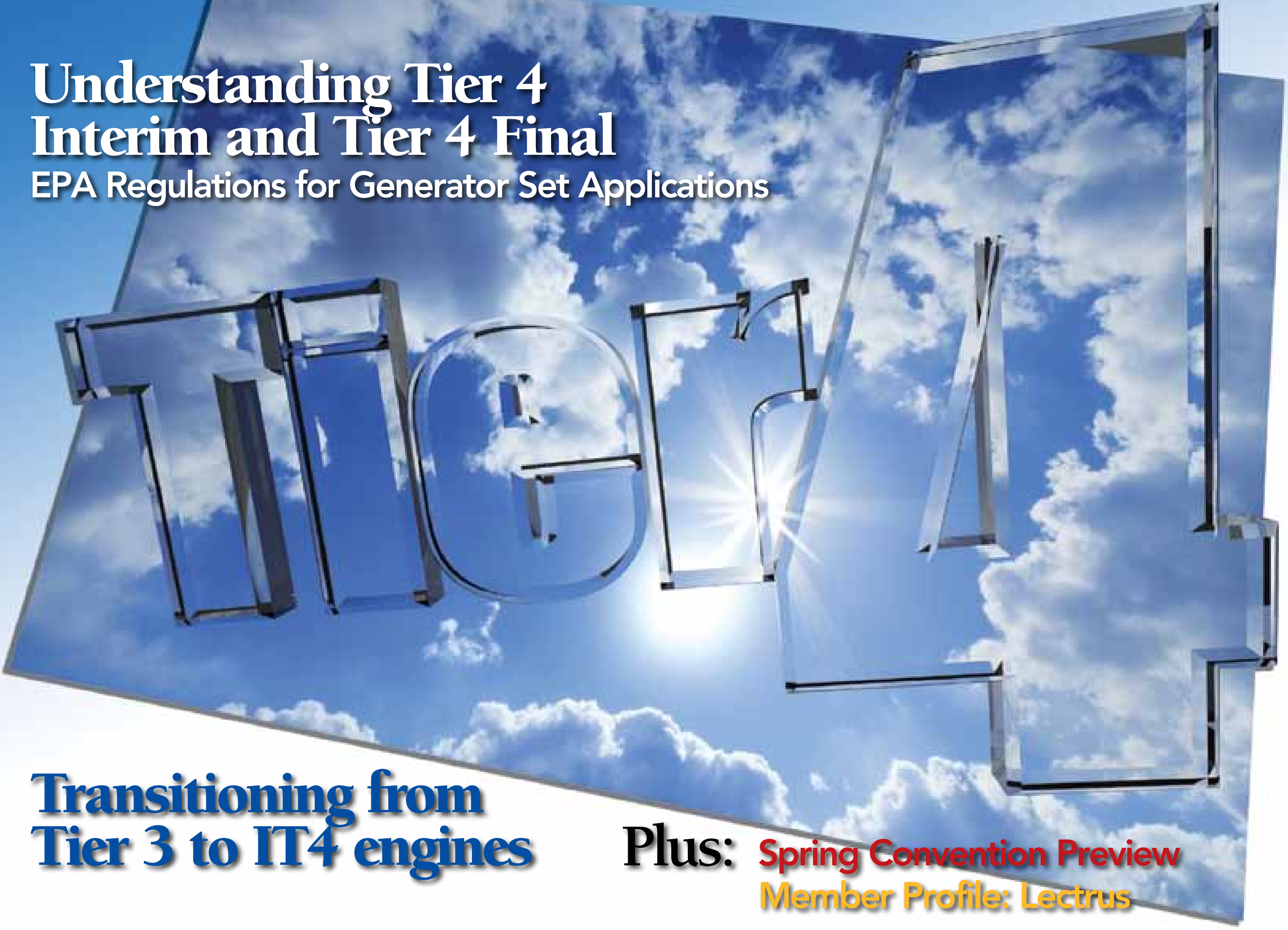
JANUARY/FEBRUARY 2011 $5.00

POWERLINE

EGSA

The Voice of the On-Site Power Generating Industry



Understanding Tier 4 Interim and Tier 4 Final

EPA Regulations for Generator Set Applications

Transitioning from Tier 3 to IT4 engines

Plus: Spring Convention Preview
Member Profile: Lectrus

PRSRT STANDARD
U.S. POSTAGE
PAID
FORT LAUDERDALE, FL
PERMIT #468

EGSA
Electrical Generating Systems Association
1650 S. Dixie Hwy., Suite 400
Boca Raton FL 33432

FAST / RELIABLE / READY WHEN YOU ARE

Through the years, Enercon has developed a reputation for meeting these power requirements with high quality custom engineered power generation products.

With over 36,000 projects in 85 countries around the world, Enercon is a leader in the power generation industry.

Our low and medium voltage switchgear, engine-generator controls, power generation packages and enclosures, and mobile power modules are custom engineered to meet the toughest requirements and your specific needs.

For more information on Enercon, our products, and services please give us a call or log on to our website at www.enercon-eng.com.

ENERCON ENGINEERING, INC.®

CUSTOM SWITCHGEAR • CONTROL SYSTEMS • TRANSFER SWITCHES • PACKAGING • POWER MODULES • ENCLOSURES

1.800.218.8831 • WWW.ENERCON-ENG.COM

CONTENTS

Volume 46, No. 1 • January/February 2011

Columns

From the Top 7
Reaching Out.

Education 8
Certification & Education.

Codes & Standards 10
An Active Time for Industry Standards.

Features

Cleaning Up the Air: The Future of Energy 14
Spring Convention education sessions, networking opportunities and Committee Meetings will help EGSA Members balance environmental and economic goals.

Understanding Tier 4 Interim and Tier 4 Final 19
EPA regulations for generator set applications.

Transitioning from Tier 3 to IT4 Engines 25
Preparing for the next round of diesel engine emissions regulations from the EPA.

Lectrus Member Profile 29
Another in our series of EGSA member company profiles.

On the cover: Understanding Tier 4 Interim and Tier 4 Final; page 19

Transitioning from Tier 3 to IT4 Engines; page 25.

Departments

Opportunities Calendar 5
Association and industry events.

Index of Advertisers 6
Who's who in this issue of *Powerline*.

Association News 16
Updates from EGSA.

EGSA New Members 30
Who has joined EGSA in the past few months?

EGSA Membership Application 31
It pays to be a member of EGSA!

Job Bank 35
Looking for a new job?

Industry News. 37
The latest reports.

“Thanks...to the ComRent team... (we accomplished) successful completion of an aggressive two day full systems integration testing regimen with full design load....”

Ron Vysma
Project Manager/Engineer
Community Heath Network

CR922 Medium Voltage Load Bank

For more than a decade, ComRent® has set the standard for load banking primary and backup power systems.

ComRent®
888.881.7118 ComRent.com

LOAD BANK RENTALS & SERVICES

EVENTS CALENDAR

Industry Trade Shows

Renewable Energy World
North America Conference & Exposition
March 8-10, 2011; Tampa, FL
Technical sessions related to technology, markets, business strategies and policy covering the wind, solar, biomass, hydro, geothermal, ocean/tidal/wave, bio-power, bio-fuels and hydrogen energy sectors. For more information, visit *www.renewableenergyworld.com*

POWER-GEN India & Central Asia 2011
May 5-7, 2011; New Delhi, India
The region's leading exhibition and conference for the power generation, transmission and distribution and water industries. To exhibit, contact Kelvin Marlow at *exhibitpgica@pennwell.com*

Power-Gen Asia 2011
September 27-29, 2011, Kuala Lumur, Malaysia
The region's premier conference and exhibition for the power generation, renewable energy and transmission and distribution industries. To exhibit, contact Bridgett Morgan at *bridgettm@pennwell.com*

POWER-GEN Middle East 2011
October 24-26, 2011; Doha, Qatar
The region's premier conference and exhibition for the power generation, transmission and distribution and water industries. To exhibit, contact Bridgett Morgan at *bridgettm@pennwell.com*

POWER-GEN International 2011
December 13-15, 2011; Las Vegas, Nevada
The world's largest show for power generation, featuring the EGSA On-Site Power Pavilion. For exhibit information, contact EGSA at (561) 750-5575, ext 205 or e-mail Jalane Kellough at *J.Kellough@EGSA.org*

Conferences

PowerTest 2011
February 21-24, 2011; Arlington, VA
The Electrical Maintenance and Safety Conference is designed to inform and educate those involved with or responsible for electrical power systems. For more information, visit *www.powertest.org*

EGSA 2011 Annual Spring Convention
March 13-15, 2011; New Orleans, LA
The Association's Annual Spring Convention. Speakers will cover business and technical aspects of On-Site Power Generation and current industry trends. For information visit *www.EGSA.org/spring* or call (561) 750-5575.

EGSA 2011 Fall Technical & Marketing Conference
September 18-20, 2011; Baltimore, MD
Speakers will cover business and technical aspects of On-Site Power Generation and current industry trends. Information and registration will be available online at *www.EGSA.org* or call (561) 750-5575.

EGSA 2011 On-Site Power Generation Schools

The most complete overview of an On-Site Power Generation System available anywhere today. Now offering Continuing Education Units (CEUs)! For information, visit *www.EGSA.org* or call (561) 750-5575.

Basic Schools

New Orleans, LA	June 7-9
Minneapolis, MN	October 25-27
Las Vegas, NV	December 13-15*

*To be held concurrently with POWER-GEN International 2011

Advanced Schools

Charlotte, NC	April 4-7
Pittsburgh, PA	August 1-4

Your Premier Manufacturer of Generator Enclosures and Base Tanks

phoenix products™
A Division of Ring Power Corporation

904-354-1858

phoenix.sales@phoenixprods.com

DESIGN • MANUFACTURE • INSTALLATION SUPPORT

Manufacturing facilities in Jacksonville, FL and Oakdale, CA
www.phoenixprods.com

ADVERTISERS INDEX

Altronic, LLC (GTI Bi-Fuel)	9
Anna, Inc.	12
ASCO Power Technologies	40
Avtron Mfg.	37
Baldor Electric Company	24
ComRent International LLC	4
Davidson Sales	18, 37
Diesel Gas & Turbine Publications	33
Enercon Engineering, Inc.	2
Evans Cooling Systems	30
Flight Systems	13
Generator Solutions	38
GT Exhaust	13, 26
Hennig	33
JRS Custom Fabrication, Inc.	17
Mid-America Engine	39
Miratech	21
MTS Power	12
Phoenix Products	5
Robinson Custom Enclosures	12
Russelectric, Inc.	11
Showmen Supplies Inc.	12
Powertron	13
Universal Acoustic & Emission Technology	30
Wabash Power Equipment Co.	37
Young Touchstone	36

Disclaimer

Powerline magazine is wholly owned and operated by the Electrical Generating Systems Association (EGSA), and includes advertising, press releases, editorials, and other materials and information submitted by third parties, and gathered by EGSA, its publisher, and its agents, and from contributors. This information is passed along by EGSA for the interest of its members only. With regard to products, services, and information mentioned, advertised, or printed, EGSA, its publisher, and its agents, do not investigate the merit, accuracy, or value of the material or information, and make no representations, warranties, or endorsements of any kind, and hereby disclaim any responsibility to parties using such products, services, or information. Readers' activities are at their own risk.

With regard to editorials, letters to the editor, columns, and any other opinions expressed herein, EGSA, its publisher, and its agents, do not ratify, adopt, endorse, or verify such opinions, and hereby state that any opinions, express or implied, are solely those of the speaker. No information is to be regarded as legal advice and reliance thereon and accuracy of statements is hereby disclaimed.

With regard to information contained herein generally, EGSA, its publisher, and its agents, do not guarantee, represent, or verify the accuracy of any information. EGSA, its publisher, and its agents, endeavor to provide accurate information, but cannot guarantee the accuracy and hereby disclaim liability for any reliance on the information contained herein.

EGSA, its publisher, and its agents, make no representations, warranties, or endorsements of any kind of the information, opinions, and advertisements contained herein, do not assert the accuracy of any statements, and all reliance thereon is hereby disclaimed.

2011 EGSA Officers

President
John Kelly, Jr., Kelly Generator & Equipment, Inc.
jekelly@kge.com

President-Elect
Michael Pope, Süd-Chemie, Inc.
Michael.pope@sud-chemie.com

Vice President
Debra Laurents, Cummins Power Generation
debra.m.laurents@cummins.com

Secretary-Treasurer
Vaughn Beasley, Ring Power Systems
vaughn.beasley@ringpower.com

Immediate Past President
Ron Hartzel, Eaton Corporation
rondhartzel@eaton.com

2011 EGSA DIRECTORS

Brian Berg, Bergari Solutions, LLC
David Brown, Kohler Company
Brad Fennell, Chillicothe Metal Co., Inc.
Robert Hafich, Emergency Systems Service Company
Larry Perez, Basler Electric Co.
Ronald Schroeder, ASCO Power Technologies
Mark Steele, Technology Research Corporation
Greg Walters, HotStart
Mike Witkowski, Pritchard Brown

EGSA STAFF

Jalane Kellough, Executive Director
Herbert V. Whittall, Technical Director
George W. Rowley, Director of Education
Cheryl Kobal, Marketing Manager
Liz Bustamante, Membership Manager
Cara Collins, Manager, Conventions & Meetings
Peter A. Catalfu, Manager of Communications
Jim McMullen, IT Director
Sherry Montiel, Staff Accountant
Kelly Wilson, Office Manager

SERVICE INFORMATION

For Subscriber orders, change of address, reprints,
and back issues (when available), contact:
Editor, *Powerline* magazine
1650 S. Dixie Hwy, Suite 400 • Boca Raton, FL 33432
561/750-5575 • Fax 561/395-8557
e-mail@egsa.org • *www.EGSA.org*

Powerline is published six times per year on a bi-monthly basis. Articles and information submitted for publication should be forwarded to the attention of the Editor at the address above 30 days prior to publication. Technical articles and articles of general interest to the electrical generation industry are actively sought and encouraged. *Powerline* reserves the right to limit information appearing in its pages to that which, in its sole discretion, will reflect positively on EGSA and the industry which it serves.

Throughout every issue of *Powerline*, trademark names are used. Rather than place a trademark symbol at every single such occurrence, we aver here that we are using the names in an editorial fashion only. EGSA has no intention of infringing on these trademarks.

Electrical Generating Systems Association
1650 S. Dixie Hwy, Suite 400 • Boca Raton, FL 33432
561/750-5575 • Fax 561/395-8557
e-mail@egsa.org • *www.EGSA.org*

John Kelly, Jr.
2011 EGSA President
jekelly@kge.com

Reaching Out

I am honored and happy to be your 2011 EGSA President.

EGSA continues to grow in membership, convention attendance and relevance as more people become involved. And EGSA continues to evolve to reach out to people and businesses outside of our immediate generator industry. In the past, EGSA focused on issues that impacted our membership directly but as we have introduced programs like Generator Technician Certification, we have come to the point where property managers, electrical engineers, fire marshals, electrical inspectors, data center managers and other stakeholders that maintain onsite power assets need to know and understand who EGSA is and what we represent.

As I travel in the mid-Atlantic region during my daily business dealings, I realize that few if any people outside of our industry have heard of EGSA. I gave a presentation a few years ago as the EGSA representative to a group of FEMA directors and only one out of fifteen or so had heard or knew of EGSA. This I think is the main reason the EGSA Board of Directors agreed to establish a full-time marketing position two years ago.

As one example, it will be hard for the Technician Certification Program to get full traction until outside stakeholders recognize the value of employing a technician certified by a nationally recognized independent organization such as EGSA. We will know we have been successful when inspectors, electrical engineers and others start asking for firms that utilize EGSA certified technicians.

Contract officers on large government contracts will find that this solves a big problem – especially if they manage multiple gensets from multiple manufacturers. Many competent dealers have bid on service contracts only to find another company bidding at half the price of everyone else. The other dealers know that the very low priced company does not have trained, qualified people, but there is no objective way for the contract officer to know any better – except by asking for technicians with specific qualifications.

The EGSA Technician Certification Program is the answer. Every other skilled trade – electrical, plumbing, HVAC, etc. – has licensing requirements so that end-users can be assured of competent technicians and mechanics. Thanks to EGSA, our industry is now moving in that direction as well – certification provides a national standard way for end-users (and generator dealers) to know the level of competence of a technician in addition to manufacturer/model specific certification.

Getting the Certification Program accepted as an industry standard (along with UL listing of equipment) would go a long way in assuring excellence in our industry over the life of the products. This could only be good for everyone involved in our industry and help expand the awareness of onsite power to even more end-users and more markets.

On a final note, it is extremely important that the EGSA membership not rely solely on our marketing person to get the word out about EGSA and the Technician Certification Program. Use every opportunity to tell the EGSA story to every appropriate manager you encounter during your normal business routine, whether it be electrical engineers, operations managers of facilities, inspectors and anyone else that could have an impact on onsite power applications. ■

Are You Looking for Qualified Generator Technicians?

Always ask for EGSA Certified Generator Systems Technicians! EGSA Certification demonstrates that the Technician has the necessary knowledge and expertise to service today's complex — and expensive — On-Site Power Generating Systems and Equipment.

CERTIFICATION & EDUCATION

George Rowley
EDGSA Director
of Education
G.Rowley@EGSA.org

CERTIFICATION UPDATE

The Technician Certification Program has reached a milestone by celebrating its 6th anniversary!

Our Technician Certification Program had its unofficial debut in December 2005. 57 technicians from every corner of the United States competed to take the Pilot Test. The Pilot Test enabled us to develop and validate the tests that we now routinely administer. Without the benefit of a study guide or assistance, 32 techs achieved certification. The program's 'official' debut took place in August of 2006, when the first validated tests were administered.

As of December 31, 2010, 509 technicians have taken the certification test and 416 have passed (including Pilot Test participants). Ninety-one techs became certified in 2010, our second best year since the program's inception (116 passed the test in 2008). Overall, about 82% of those who take the test pass it.

And yet another milestone: Re-certification! One policy that we put into place when developing the certification program was to require the technicians to re-certify every five years. Recertification is accomplished by passing another certification test. All of the techs that passed the Pilot Test have a Certification date of December 4, 2005. Therefore it is time for them to re-certify.

And here is the news that is not so good: As of January 31, 2011 only five technicians of the 32 who passed the pilot test have re-certified! The value of certification should not be underestimated. The certification and testing program have established standards of performance and knowledge for generator service technicians. Passing the test demonstrates a level of proficiency that is required for the tech to safely and effectively do their job. Certification enables techs to distance themselves from "back yard" mechanics, allowing everyone, from manufacturers to end users, to have the confidence that the tech possesses the necessary skills and knowledge to install, maintain, service and repair expensive and complicated power generation equipment.

We anticipate that all of the techs that took the Pilot Test will recertify within the next few months.

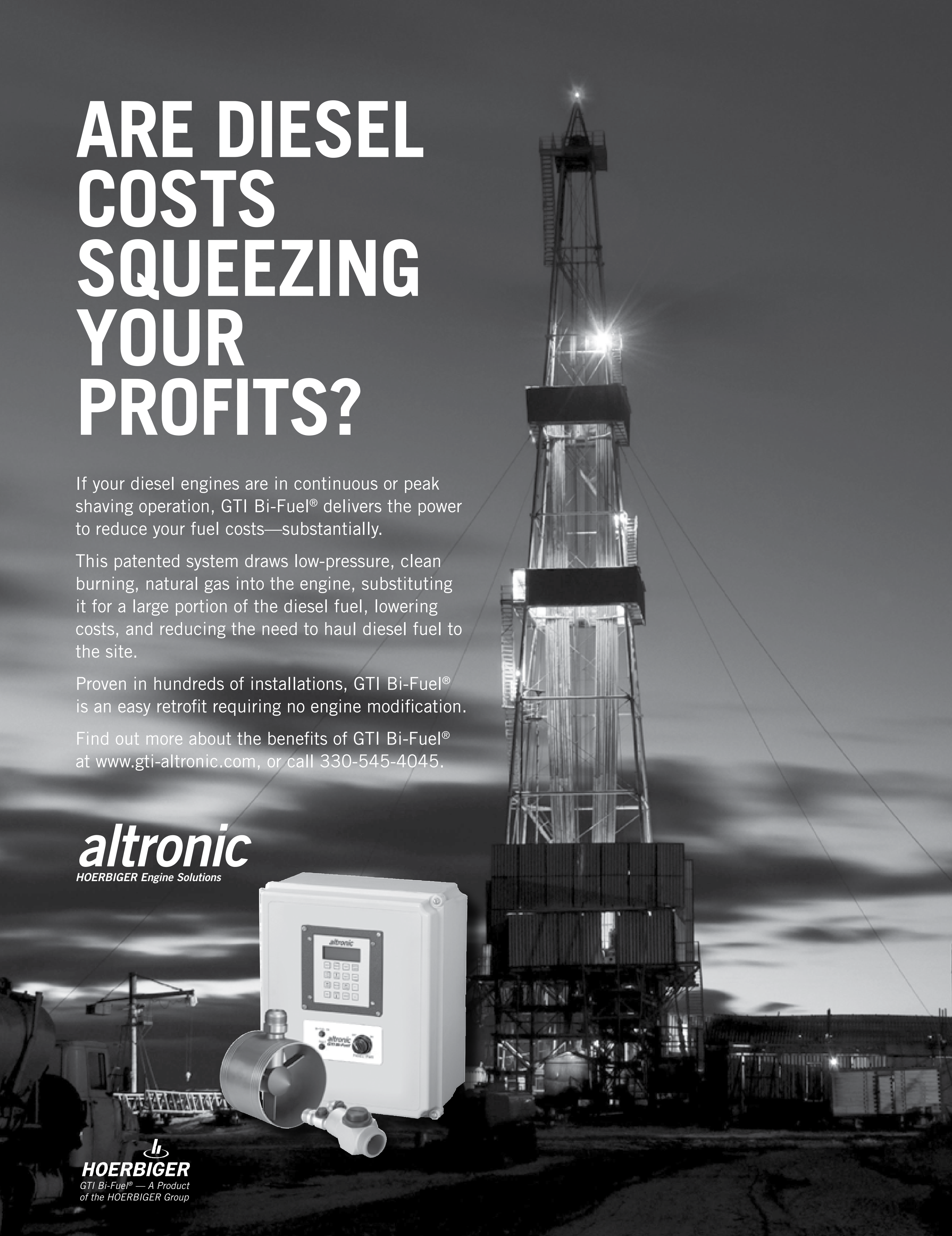
EDUCATION UPDATE

On-Line Learning Program Progress – The big news this month is the receipt of proposals that were submitted by three e-learning development firms in response to an RFP we distributed.

As previously reported the On-line Learning subcommittee of the Education Committee sent a Request for Proposal (RFP) to firms who develop and administer e-learning programs. Our RFP required the firms to describe how they would develop, organize and structure the two initial e-learning programs; along with, how they would administer and implement the programs. When preparing their proposals, the vendors were advised to include the ability for future expansion, due to the probability that we would offer additional e-learning courses down the road.

If we proceed with this project, the vendor will be required to work in collaboration with EGSA staff and volunteers, to develop a clear, logical and easy to understand computer interface sequenced in such a way as to facilitate learning, while maintaining the interest of the student. EGSA will be responsible for supplying most of the images, text and narration that will be incorporated into the e-learning experience. Therefore, we will be calling on our volunteer network of "Subject Matter Experts" to provide factual, technically accurate and up-to-date information. We will also reach out to our network of manufacturers and others in the field to provide additional content.

Due to the complexity of the RFP and the proposals received, it will require careful review, evaluation and consideration to develop responsible recommendations. We anticipate the ability to make a more detailed report at the Spring Convention in March. ■



ARE DIESEL COSTS SQUEEZING YOUR PROFITS?

If your diesel engines are in continuous or peak shaving operation, GTI Bi-Fuel® delivers the power to reduce your fuel costs—substantially.

This patented system draws low-pressure, clean burning, natural gas into the engine, substituting it for a large portion of the diesel fuel, lowering costs, and reducing the need to haul diesel fuel to the site.

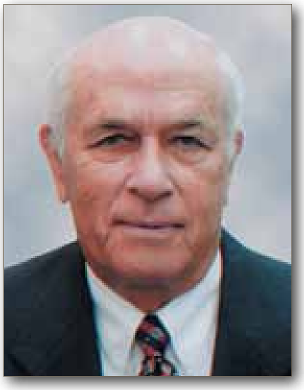
Proven in hundreds of installations, GTI Bi-Fuel® is an easy retrofit requiring no engine modification.

Find out more about the benefits of GTI Bi-Fuel® at www.gti-altronic.com, or call 330-545-4045.

altronic
HOERBIGER Engine Solutions

HOERBIGER
GTI Bi-Fuel® — A Product of the HOERBIGER Group

An Active Time for Industry Standards



Herb Whittall
EGSA Technical Advisor
HWhittall@comcast.net

There is a lot going on currently with the various standard-making entities and government regulators that affect our industry. Here are a few standards we are keeping an eye on:

ISO 7967

The ISO Technical Committee 70 (Internal Combustion Engines) Working Group 02 (Terms and Definitions) came out with preliminary proposals for three new work items concerning the vocabulary used in Reciprocating Internal Combustion (RIC) engines. They will be ISO 7967- 10 Reciprocating internal combustion engines. Vocabulary of components and systems – Part 10: Ignition Systems; Part 11: Fuel Systems and Part 12: Emission Control Systems. The standards will be based on the existing Japanese Standard, JIS B 0110.

ISO 8578-5

ISO 8578-5 Reciprocating Internal Combustion Engines Driven Alternating Current Generator Sets – Part 5 Generator Sets, is being revised to Edition 3. Expect the printed version to be out soon, because a CD edition is already available.

ISO 8528-5 is a 34 page document that covers many details concerning engine driven A/C generators. There are many references to using the manufacturer's specifications when looking at performance characteristics.

It also has 4 ratings listed: COP – Continuous; PRP – Prime; LTP – Limited Time Running Power; and ESP – Standby. I am familiar with all but the LTP, which I think is a rating between Prime and Standby.

ISO 15615

ISO 15615 Reciprocating internal combustion engines – Measurement procedure for exhaust silencers – Sound power level of exhaust noise and insertion loss using sound pressure level and power loss ratio is in process and EGSA manufacturers of sound suppression equipment should look into what this standard will require.

During the September 2010 EGSA Conference one of the speakers dealt with RICE NESHAP Reciprocating Internal Combustion Engines National Emissions Standard For Hazardous Air Pollutants. For those who are unfamiliar with this standard, it is a ruling from the EPA that goes into effect in May 2013 and affects all diesel engines running as a prime source of power. According to the EPA there are close to one million engines operating that will be affected by this ruling. There was a four page article as a handout at the conference with much more detail by Universal Acoustic and Emission Technologies. You can also read their article in the November 2010 edition of Power Engineering Magazine starting on page 42. For more information you can go to their web site at www.UniversalAET.com. An article on the subject can also be found in the Septemebr/October issue of *Powerline* magazine (available for download at *www.egsa.org*).

UL 1778

UL is proposing that UL 1778 Uninterruptible Power Systems 2nd Edition, which was to be withdrawn on March 31, 2011, will not be withdrawn until March 31, 2014. The effective date for UL 1778 4th Edition will still be April 1, 2011.

Sound confusing? Try this. Products can be certified to either edition through April 1, 2014 and will keep their listing. However, in the meantime the Standards Technical Panel will try to merge the requirements of the 2nd and 4th editions into UL 1778 5th Edition which will become effective on April 1, 2014, superseding the 2nd and 4th editions which will then be withdrawn on April 1, 2014.

Still confused? Many are.

NFPA 99

The final ballot from the committee for NFPA 99 – Health Care Facilities is complete and it passed. Now it will go back to the next NFPA Annual Meeting to be approved and published. There were several negative ballots for specific comments, but all items passed with the required 2/3 approval. Most of the negative ballots were from the one practicing Hospital Doctor on the

The new RUSSELECTRIC 30-CYCLE TRANSFER SWITCHES...

Selective coordination just got a whole lot easier!

The National Electrical Code mandates selective coordination of overcurrent devices in emergency and legally required standby power systems.

UL labeled and listed for 30-cycle closing and withstand ratings based on testing per UL Standard 1008, new Russelectric RTS Series automatic transfer switches allow selective coordination of upstream overcurrent devices with downstream devices. By allowing those devices closest to the fault to interrupt power, these 30-cycle-rated switches dramatically simplify both the specification and coordination of overcurrent devices.

Russelectric RTS Series switches are available with continuous current ratings from 100 to 4000 A. No other manufacturer offers such a comprehensive line of 30-cycle-rated switches.

For ease of application, performance, flexibility, and long life…
Nothing comes close to Russelectric RTS Series switches.

1-800-225-5250
www.russelectric.com

An Equal Opportunity Employer

Russelectric
POWER CONTROL PEOPLE YOU CAN RELY ON

An Employee-Owned Company

panel and had to do with an Operating Room being designated as a wet location. The doctor felt that if the OR was designated a wet location, that other places in Health Care Facilities should also be so designated.

New York State Codes

On December 28, 2010, the revised New York State Codes became mandatory. These nine new codes are based on the 2006 International Code Council (ICC) codes. The 2010 Energy Construction Code for New York State is based on 2009 International Energy Conservation Code (IECC). If you want to order these new codes either call 1-800-786-4452 or go to *www.iccsafe.org/NY2010*.

Texas - Standby Generators in Condos

The Texas legislature will again in 2011 consider a bill to limit homeowner and condominium association's power to keep their members from installing standby generator sets. If you are a Dealer in Texas, you can help get this legislation passed by inviting your state representative to your dealership and showing him a small sound suppressed generator set as well as demonstrating how quiet and unobtrusive this set can be. For more information on this contact John Stratton at 1-512-426-2028. ■

MTS POWER PRODUCTS
McPherson Controls
1-800-541-7677
sales@mtspowerproducts.com http://www.mtspowerproducts.com

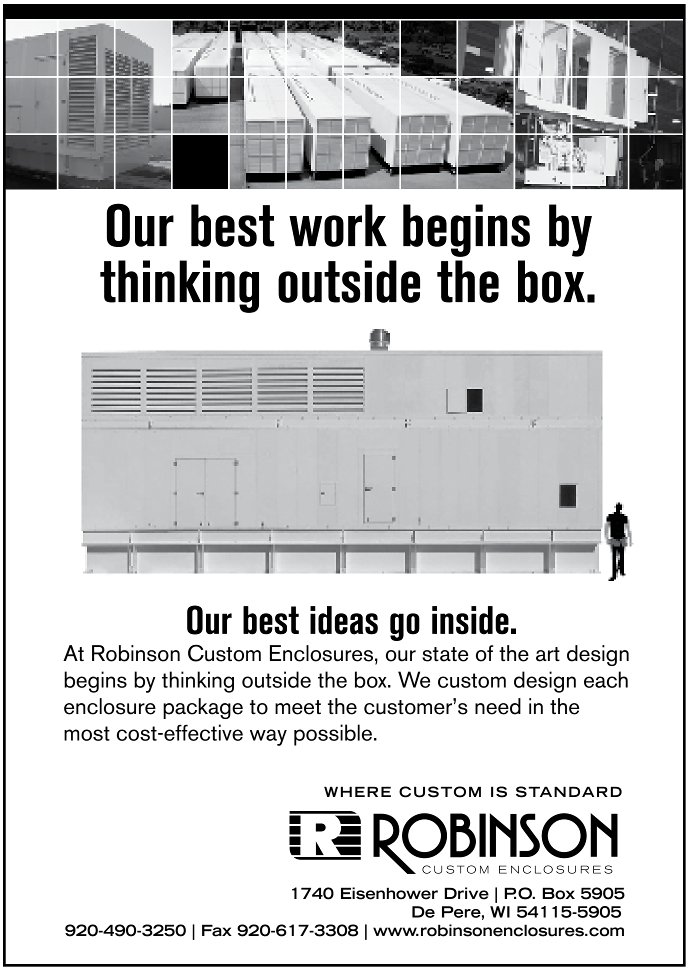
power generation issues?
we've got solutions
ANNA Inc.
www.annainc.com

In the business of power, you have to have CONNECTIONS

Connect with us for quantity discounts and volume pricing on a vast selection of :

- Cam Connectors
- Cable Assemblies
- 4/0 Type W In Colors
- Bulk Cable
- Distro Boxes

Call Us
800-334-9630
www.showmensupplies.com
Showmen Supplies, Inc.


Our best work begins by thinking outside the box.

Our best ideas go inside.
At Robinson Custom Enclosures, our state of the art design begins by thinking outside the box. We custom design each enclosure package to meet the customer's need in the most cost-effective way possible.

WHERE CUSTOM IS STANDARD
ROBINSON CUSTOM ENCLOSURES
1740 Eisenhower Drive | P.O. Box 5905
De Pere, WI 54115-5905
920-490-3250 | Fax 920-617-3308 | www.robinsonenclosures.com

IS YOUR BUSINESS
EMERGENCY GENERATOR READY?

POWERTRON® QUICK CONNECT/TAP BOX

- What is the disaster recovery plan for your business?
- What do you lose during extended power failures?
- What are your critical electric power needs?
- Are you prepared to connect temporary power quickly?

POWERTRON®
www.powertronsolutions.com
847-956-5000

Replacements for over 55 Onan®
Control P/Ns
- Obsolete &
Current - Save
Hundreds on OE pricing!

Rebuildable "Universal"
Voltage Regulators
·All Built in the USA - 2 Yr. Warranty!

ATS & Generator Cont.
Reman Svc. - Ave. 3 Day
Turn-Around; 1 Yr. Warranty

ASCO® Basler® Cat® Generac®
Onan® Kato® Kohler® Zenith®
& Many more - Contact us
for our Dealer Price List!

Put the G-MAN On the Case!
GENERATOR MAN

FLIGHT SYSTEMS
·505 Fishing Creek Rd, Dock 16, Lewisberry, PA 17339
Toll-Free: 800-403-3728 Fax: 717-932-9925
www.flightsystems.com

TO MAKE SURE YOU'RE
RICE NESHAP COMPLIANT

we considered publishing a 43-page ad of the Environmental Protection Agency's Federal Register Rules and Regulations, 40 CFR, Part 63.

INSTEAD, WE DECIDED TO GIVE YOU OUR NUMBER.

1-855-4NESHAP (463-7427)

Call us. We'll take care of your **RICE NESHAP** needs.

GT EXHAUST
a clear direction for the future

SIMPLE.
We make it easy.

GT Exhaust is your one source partner for everything **RICE NESHAP**. From consultation to installation, we've got you covered.

EXPERT.
We know our stuff.

You can rest easy working with a team of talented, knowledgeable professionals. That's the type of confidence that comes with 30+ years in the industry.

SOLUTIONS.
We have what you need.

We'll make sure you get the right product at the best price in the quickest time possible. We have the total solution to ensure your compliance with **RICE NESHAP**.

www.gtexhaust.com

CLEANING UP THE AIR:
The Future of Energy

2011 EGSA Annual Spring Convention

March 13-15, 2011, New Orleans, LA

KEYNOTE

The Environmental Debate is Over: The Essential Public/Private Partnership

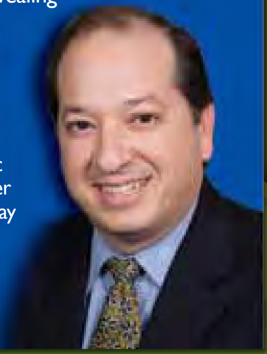
ANDY KARSNER

Former U.S. Assistant Energy Secretary for Energy
Chairman and CEO, Manifest Energy

Following Andy Karsner's informative keynote address at the 2009 EGSA Spring Convention, members have been eager for him to return as a guest speaker. We are pleased to announce Mr. Karsner's highly-anticipated return!

Karsner will reveal how the U.S. Government, Corporate America, environmental groups, and average citizens are uniting to heal our wounded environment while eliminating our addiction to oil. Accomplishing this feat may well be the greatest challenge of the century, but what precisely is required from the private and public sectors? In this revealing presentation, learn:

- What the new presidential administration must do to solve the energy and environmental threats, and
- How the private and public sectors must work together in a new, comprehensive way to blend environmental and economic goals.



PLATINUM SPONSOR

DOOSAN
Doosan Infracore
Portable Power

MEDIA SPONSORS

POWERLINE EGSA
The Official Publication of Electrical Generating Systems Association (EGSA)
CONSULTING – SPECIFYING engineer
Diesel & Gas Turbine WORLDWIDE
DEDICATED TO ENGINE ROOM PRODUCTS, TECHNOLOGIES & NEWS
NORTH AMERICAN DIESEL PROGRESS
PRODUCTS • TECHNOLOGY • INDUSTRY NEWS
BUILDING OPERATING management

GOLD SPONSORS

DEIF
SÜD-CHEMIE
lectrus®
ENGINEERED TO SPEC. BUILT TO LAST.
Power Systems Research
www.powersys.com

SILVER SPONSORS

JRS
CUSTOM FABRICATION, INC.
1 John 1:3
PENN POWER SYSTEMS®
Power Generation Systems Specialists
POWER SEARCH, INC.
Ring Power® CAT®
Power Systems Division
altronic
GTI Bi-Fuel®
GIRTZ
engineering
PACKAGING
performance
KELLY

EGSA Spring Convention

The "Big Easy" hosts EGSA's 46th Annual Spring Convention

On-Site Power Industry professionals will gather in New Orleans, LA, March 13-15 to atrend the 46th Annual Electrical Generating Systems Association (EGSA) Spring Convention.

The Convention's scheduled program— "Cleaning Up the Air – The Future of Energy"— includes educational sessions designed to engage your interest, provoke your thoughts and provide you with useful information to help you succeed. Sessions address a variety of subjects including what is required from the private and public sectors to blend environmental and economic goals; the integration of green technology into the existing energy sector; along with, discussing how the new amendments to RICE NESHAP impact engine owner/operators. Additionally, the "Field Service Etiquette" panel will discuss the importance of training of your field technicians to ensure that your firm is represented in the best possible light.

Convention Delegates will be afforded ample opportunity to network with the On-Site Power Industry's key players over the course of the Convention in both formal and casual settings. The Exhibitors' Showcase tabletop setting, for example, allows for a more traditional, formal dialogue between On-Site Power Manufacturers, attending Distributor/Dealers and Manufacturer Representatives. Similarly, EGSA Committee Meetings create opportunities to make important, lasting contacts and empower Delegates to transform our industry. By providing Delegates with access to organizations that influence and entities that regulate Electrical Power Generation, EGSA Committee Meetings enable them to participate in shaping the future of the Association, the Industry and that of their own companies as well. Conversely, casual social venues such as the President's Reception and the Golf and Fishing Tournaments give Delegates the chance to relax and provide the time they need to build on their initial contacts and develop the personal relationships that are key to effective networking.

The Host Hotel

Astor Crowne Plaza® Hotel New Orleans - French Quarter, is conveniently located at the corner of Bourbon and Canal Streets. The hotel's French Quarter location promises Convention Delagates a grand experience in "The Big Easy" within walking distance of world-famous downtown attractions and a short drive from the New Orleans Airport.

The EGSA room rate is $192 per night plus applicable state and local taxes (currently 13%) and a $2 per paid room night occupancy tax. These special group room rates are available three days prior to and following the published event dates based on hotel availability. Call 1-888-696-4806 to reserve your room by Friday, February 18, 2011 and mention EGSA to receive the group rate. Or, Delegates may reserve a room using our website's Reservation Link. You'll find complete convention information—including hotel reservation information, education session descriptions, corporate sponsorship opportunities and golf and fishing tournament details—at our registration portal at *www.EGSA.org/spring*.

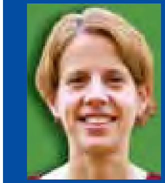
About EGSA

The Electrical Generating Systems Association (EGSA) is an international trade association made up of more than 700 companies throughout the United States and around the world that make, sell and distribute On-Site Power generation and related-equipment. Headquartered in Boca Raon, Florida, EGSA is the world's largest organization dedicated to On-Site Power generation. ■

REGISTER TODAY! www.egsa.org/spring

EDUCATION SESSION DESCRIPTIONS

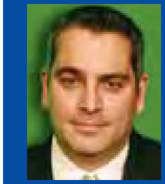
NESHAP for Stationary Reciprocating Internal Combustion Engines



MELANIE KING
Environmental Engineer
Energy Strategies Group
Sector Policies and Programs Division
Office of Air Quality Planning and Standards
U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency finalized amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE) in 2010. The new amendments to the RICE NESHAP regulate emissions of hazardous air pollutants from existing (in-use) stationary engines. More than one million stationary engines are expected to be subject to these new regulations. This session will provide an overview of the new regulations, including a summary of the applicability of the rule, the emission standards, the compliance requirements and deadlines and the estimated impacts on engine owners/operators.

Green Technologies: The Old World Integrating with the New



RALPH AVALLONE
President & CEO
International Green Energy Council
National Green Energy Council

Green Technologies is an informative and thought-provoking session that explains the current integration of green technology into the existing energy sector. Examples will be presented of how academic public/private partnerships are working to close the gap. This session also helps to identify the ways in which the status quo benefits from disruptive green technologies; along with, examining the type of political environment required to successfully integrate the existing energy sector with emerging green technologies.

Hurricane Katrina Case Study

At no time is the importance of on-site power more critical than in the event of a natural disaster. On the morning of August 29, 2005, that fact became abundantly clear as Hurricane Katrina made landfall in Louisiana. This case study examines the predicament faced in the wake of this unprecedented event; the plan of action that was set into place; and finally, the lessons learned to help better respond to the need for emergency, on-site power as we move forward.

Field Service Etiquette

Moderator - LEO LEBLANC, *Methane Power, Inc.*

The end user's overall impression of your company hinges on the professionalism presented in the field. Six of the industry's top Power Operations Managers will be on hand to discuss the importance of properly training your technicians in the area of customer/end user relations. Panelists will discuss the importance of providing accurate information, to fully inform the customer, while maintaining a professional demeanor. Your technicians are the "face" of your company in the field. Learn how to ensure that your organization is presented in the best possible light.

PANELISTS:
BRAD BINGERT, *Cummins Mid-South LLC*
JIM CRESS, *Ring Power Corporation*
JOE HAFICH, *Emergency Systems Service Company*
RICK MORRISON, *Nixon Power Services Company*
JACK PETRO, *ASCO Power Technologies*
BOB PISKE, *Gen-Tech of Arizona*

EGSA Announces Enhanced Spring Convention Sponsorship Program

Are you looking for ways for your company to stand out at the 2011 EGSA Annual Spring Convention? EGSA has developed a new comprehensive sponsorship program with a number of exciting sponsorship packages to fit any marketing budget. The various Platinum, Gold, and Silver sponsorship opportunities are specifically designed to place your company and its products or service offerings literally in the hands of delegates from the industry's leading firms. Take advantage of these high-profile opportunities today and create a buzz for your company this year. Don't wait…many of the sponsorship benefit deadlines are fast approaching! To learn more, contact EGSA today at 561-750-5575 or visit *www.egsa.org/spring.* ■

Baltimore is the Venue for EGSA's 2011 Fall Conference

EGSA's 2011 Fall Technical and Marketing Conference will be held in Baltimore, MD. The Conference has been schedule for September 18 - 20, one week later than you've become accustomed to, so mark your calendars. The Conference is designed to focus on technical and marketing issues featuring speakers from member companies, utilities, research firms, government agencies and others to give informative presentations. As an exhibitor or attendee, you will find the Exhibitor's Showcase to be the ideal setting for Distributor/Dealers, Manufacturers, and Manufacturer's Reps to network with industry partners.

The host hotel for this year's Conference is the Hyatt Regency Baltimore, located overlooking the Inner Harbour. This urban contemporary hotel offers a luxury gateway to all that Baltimore has to offer.

We look forward to seeing you in Baltimore! For additional information about the Fall Conference please visit, *www.egsa.org.* ■

Make contacts.
Influence the Industry.
Improve your Business.

Top 10 Reasons to Be an EGSA Member

1. Discounted fees for:
    - EGSA Technician Certification Program
    - On-Site Power Schools
    - EGSA Conferences and Conventions
    - The EGSA On-Site Power Reference Book
2. Free job postings in our Job Bank
3. Access to informative presentations from past EGSA conferences
4. Use of the EGSA logo on your company advertisements, website, stationery, etc.
5. Priority booking of your booth in the EGSA Pavilion at POWER-GEN International
6. Access to EGSA's quarterly generator shipment survey
7. Listing in EGSA's Annual Buying Guide (distributed to over 30,000 industry leaders)
8. Your company information will appear on EGSA's website
9. Networking opportunities at EGSA events, including conferences, conventions, trade shows and receptions
10. Participate on committees that influence the course of the association and the entire industry

Electrical Generating Systems Association
www.egsa.org

Longtime EGSA Member, Jim Wright Poised to Retire

After contemplating the subject for some time, EGSA Past President and current EGSA School Instructor, Jim Wright has decided to embark on a well-earned retirement.

Upon earning a BS in Nautical Science from the U.S. Merchant Marine Academy, Jim began his career at Lima Electric Company, in 1968, where he held a variety of Generator Sales and Engineering positions. In 1986 Marathon acquired Lima Electric. Jim has been with Marathon since and presently holds the position of Senior Product Engineer – Generators.

Jim's involvement with EGSA began in 1973. He has served on the Technical & Standards Committee (1973-78), chaired the Education Committee (1985-94), served as Secretary-Treasurer (1987), Second Vice President (1988), First Vice President (1989) and President (1990).

Jim has been involved with the On-Site Power Generation school since its inception in 1983 and received The William Timmler award, in 1989, for his work on the Education Committee. In addition to writing two chapters of the On-Site Power Reference Book, Jim has also authored a number of technical articles for *EGSA's Powerline Magazine.* An award that bears his name, The James Wright Award, was created to honor individuals who, like Jim, have devoted their energies to the betterment of the Association's education programs.

EGSA honored Jim once again, in 1992, when he received The Leroy H. Carpenter award for long and outstanding service to the Association.

Throughout the years Jim's dedication and undying commitment to EGSA has influenced the Association's direction and focus. He will be missed. When asked what he will miss the most upon his retirement, he said "the people, not only my business associates, but also the customers and, of course, the members of EGSA."

Following a career spanning more than four decades, what does retirement hold for Jim? In addition to having time to enjoy some of his hobbies, he is most looking forward to "just chilling out."

Jim, one thing is for sure, EGSA is a much better place because of you. We all wish you the very best. ■

On-Site Power Schools EGSA's Two-Tiered On-Site Power Schools

The Basic School is a general, but still technical, overview of On-Site Power Generation equipment. The Basic School is designed for those who are working in nontechnical positions (such as Sales or Marketing, Administrative, or Company Management positions) and for those with less than three years experience working in the industry.

In comparison to the Basic School, the Advanced School offers more highly technical and in-depth coverage of the equipment. The Advanced School is designed for those who have attended the EGSA Basic On-Site Power Generation School; those who are employed in Engineering, Project Management, or Service positions; and for those with over three years working in the industry. ■

2011 Basic School Schedule

- New Orleans, LA – June 7-9
- Minneapolis, MN – October 25-27
- Las Vegas, NV - December 13-15*

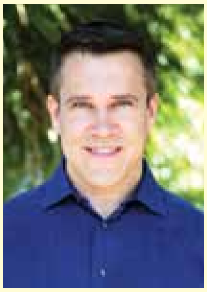
*To be held concurrently with POWER-GEN International 2011

2011 Advanced School Schedule

- Charlotte, NC – April 4-7
- Pittsburgh, PA – August 1-4

EGSA Names Peter Catalfu Manager of Communications

EGSA has announced the hiring of Peter Catalfu as its new Manager of Communications. Peter has more than 25 years experience in advertising and publication design for a variety of consumer and trade accounts.



Peter most recently held the position of Creative Director/ Manager Creative Services at Windjammer Barefoot Cruises, a Caribbean, tall ship cruise line. ■

Space is currently available in the EGSA Pavilion at 2011 PowerGen International

To inquire about booth availability, contact EGSA headquarters at (561) 750-5575. The world's biggest show for power generation, this show attracts more than 18,000 attendees from 76 countries and features 1,200 exhibitors. ■

EGSA Membership Renewals Currently Underway

Registration is open for the EGSA Spring Convention in New Orleans, LA (March 13-15) and for the upcoming Advanced On-Site Power Generation school in Charlotte, NC (April 4-7). Make sure you receive the member rate for your participation by renewing your company's EGSA membership. All billing inquiries should be directed to Sherry Montiel at (561) 750-5575 ext. 210. ■

JRS
CUSTOM FABRICATION, INC.
1 John 1:3
Phone: (352) 351-2100
Fax: (352) 351-5881
www.jrscustomfab.com
CHECK OUT OUR NEW FACILITY AT 5000 N.W. 5th STREET OCALA, FL 34482
TANKS • TRAILERS • ENCLOSURES

DavidsonSales CO

PROMPT DELIVERY • BEST VALUE
LARGEST INVENTORY

- VDO Gauges
- Kim Hotstart Heaters
- Marathon Voltage Regulators
- Panelsource Control Panels
- SENS Battery Chargers
- Korfund Vibration Isolators

Call 800-383-2078 for quotation or product information

P.O. Box 9086 • Daytona Beach, FL 32120 • 386-274-2079 • Fax 386-274-2279

Visit us at our website: www.davidsonsales.com • email: dsc@davidsonsales.com

Understanding Tier 4 Interim and Tier 4 Final

EPA Regulations for Generator Set Applications

By Christine Ueno, Regulatory Compliance Manager, MTU Onsite Energy, Mankato, Minnesota

While Tier 4 standards that begin to take effect in 2011 do not apply to generator sets used strictly for emergency standby power (with possible exceptions for California and non-attainment areas), power system specifiers and owners need to be aware of how the regulations will affect other genset applications.

The U.S. Environmental Protection Agency (EPA) began to enforce limits on diesel exhaust emissions from nonroad diesel engines in 1996 and stationary diesel-engine generator sets in 2006. Implemented in a series of steps called Tier levels, these regulations, over time, have introduced successively more stringent limitations on nitrogen oxides (NOx), carbon monoxide (CO), particulate matter (PM) and non-methane-hydrocarbons (NMHC).

EPA MOBILE OFF-HIGHWAY REGULATIONS (225kW TO 559kW)

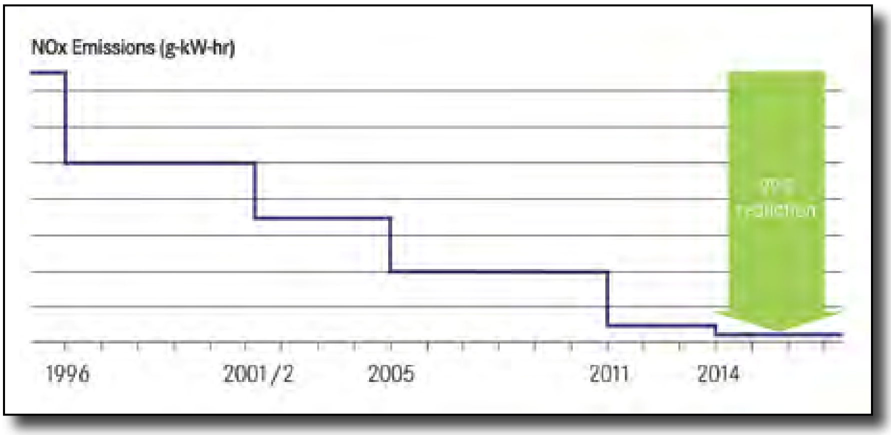


Figure 1. *By the time Tier 4 Final regulations are introduced in 2014 and 2015, NOx and PM emissions from off-highway diesel engines will have been reduced by 99 percent.*

In response to these regulations, engine manufacturers began introducing innovative design changes and sophisticated engine control systems that have successfully reduced the major pollutants in diesel exhaust to comply with each successive Tier level. Currently, all major generator set manufacturers offer products that comply with Tier 2, Tier 3 or Tier 4 Interim standards in various horsepower categories. This article will explain the latest and near-term emissions requirements for generator set applications and discuss the technologies used to comply with the new standards.

Dramatic emissions reductions

Since the introduction of regulations in the mid-1990s, nonroad diesel emissions have been dramatically reduced. (See Figure 1.) By the time Tier 4 Final is introduced in 2014 and 2015, NOx and PM emissions from diesel exhaust will have been reduced by 99 percent.

It is important to remember that the EPA emissions regulations vary by the horsepower rating of the generator engine (or the metric mechanical kW equivalent), not the kilowatt capacity listed on the generator nameplate. The Tier requirements have been written and implemented over an 18-year period that will culminate in 2015 with Tier 4 Final. The next big emissions reduction for medium to large generator sets begins in 2011 with Tier 4 Interim standards and concludes in 2014 and 2015 with Tier 4 Final standards. (See Figure 2.)

TIERS 1-4 NONROAD EMISSIONS STANDARDS

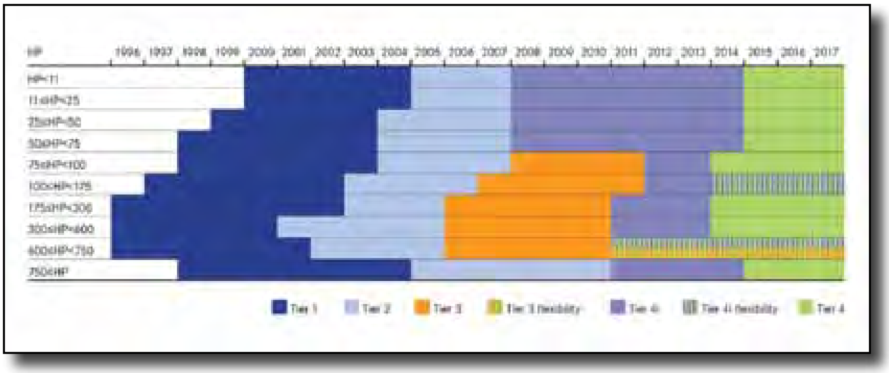


Figure 2. *Nonroad diesel emissions standards vary by the horsepower rating of the engine and are being phased in over an 18-year period, culminating in 2015 with Tier 4 Final.*

Emergency Standby Power (ESP) Exception

Throughout most of the United States, diesel-engine and gas-engine generator sets used strictly for emergency standby power (ESP) are exempt from EPA Tier 4 Interim and Tier 4 Final regulations. ESP installations have been exempted because Tier 2 and Tier 3 engine generators already exhibit emissions reductions of over 85 percent that have come about through in-engine design improvements. Additionally, because ESP units typically run fewer than 200 hours per year, their emissions have been judged to have an insignificant impact on local air quality. In fact, there are no time limits on running ESP generators in true emergency situations due to utility outages or equipment malfunctions. This means that all current Tier 2 and Tier 3 diesel generator sets in their applicable horsepower categories will be in EPA compliance through 2015 and beyond when used strictly for ESP. (See Figure 3.) ESP installations are also allowed up to 100 hours of running time per year for testing and maintenance.

Other parts of the country may also have more stringent regulations, especially in areas where municipalities have not attained current EPA air quality standards. These non-attainment areas are generally large population centers where due to either high local emissions or local weather conditions, ozone concentration exceeds EPA recommendations. Since NOx is a precursor to atmospheric ozone, non-attainment areas have sought to exercise greater control over point-sources of NOx. In order for municipalities to comply with emissions regulations in non-attainment areas, all diesel-engine and gas-engine generator sets may be required to comply with Tier 4 Interim in 2014 and eventually Tier 4 Final in 2015. (See Figure 4.)

EMERGENCY STATIONARY (ESP) RATINGS

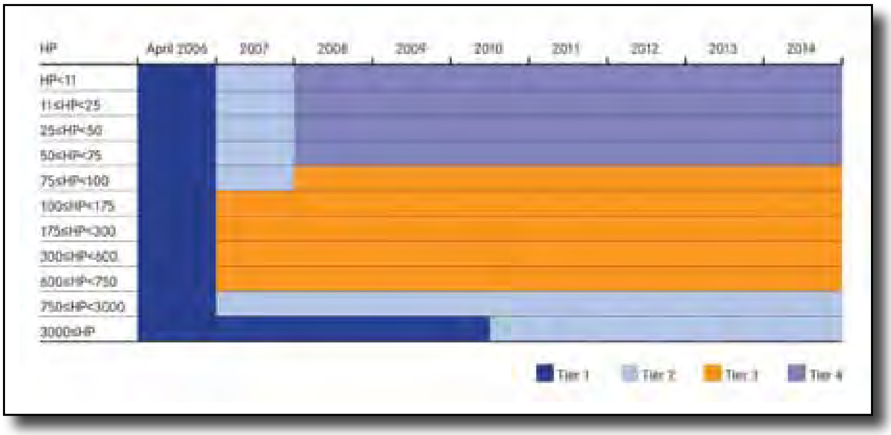


Figure 3. *Generator sets used exclusively for emergency standby power are exempt from Tier 4 Final. Some smaller generator set engines are able to meet Tier 4 Interim without the need for aftertreatment.*

Non-ESP applications

For applications other than ESP, Tier 4 regulations for generator sets will be phased in in two steps, beginning with Tier 4 Interim in 2011. Tier 4 Final will be required for small nonemergency generator sets beginning in 2013 and eventually all nonemergency generator sets by 2015. To achieve the level of emissions control required to meet Tier 4 Interim and Tier 4 Final standards, some form of exhaust aftertreatment will be required.

Generator set applications that will be required to comply with Tier 4 Interim in 2011 and Tier 4 Final in 2014 (<750 hp) and 2015 (>750 hp) include:

- Load management or peak shaving applications —including any generator sets paralleled with the local utility and used in curtailment programs. While these generator sets may also be used for ESP, their secondary use for load management disqualifies them for exemption from Tier 4 Interim and Tier 4 Final.
- Prime power applications — where the generator set is used as the primary source of electrical power due to the unavailability of normal utility power.
- Applications involving mobile rental power units — including temporary power used at construction sites, seasonal utility peaking, special events or any other temporary power application.
- Spark-ignited engine generators in non-ESP applications — including generator sets running on natural gas, LP, or methane collected from landfills, sewage treatment or coal seams. While these fuels are naturally clean-burning and compliant for PM, they do produce enough NOx to require exhaust aftertreatment for Tier 4 Interim and Tier 4 Final in non-ESP applications.
- Non-attainment area applications — generator set applications in California and other non-attainment areas of the country that have adopted stricter air-quality standards.

In-engine design successes

While diesel engines have always been efficient and reliable, they have also had a history of producing exhaust with high levels of NOx and PM. However, in the past 15 years the modern diesel engine has been transformed into one of the cleanest prime movers available today. To date, the more than 85 percent reduction in NOx and PM in diesel exhaust has been achieved through changes to the combustion process. These advances involved changes to the geometry of the combustion chamber, valve timing, fuel injection and engine controls that distinguish today's clean diesel engine.

This in-engine improvement approach has resulted in the best performance, highest fuel efficiency and lowest heat rejection of any available technologies. In fact, the overall thermal

NONATTAINMENT AND MAINTENANCE
AREAS 8-HOUR OZONE (1997 STANDARD)

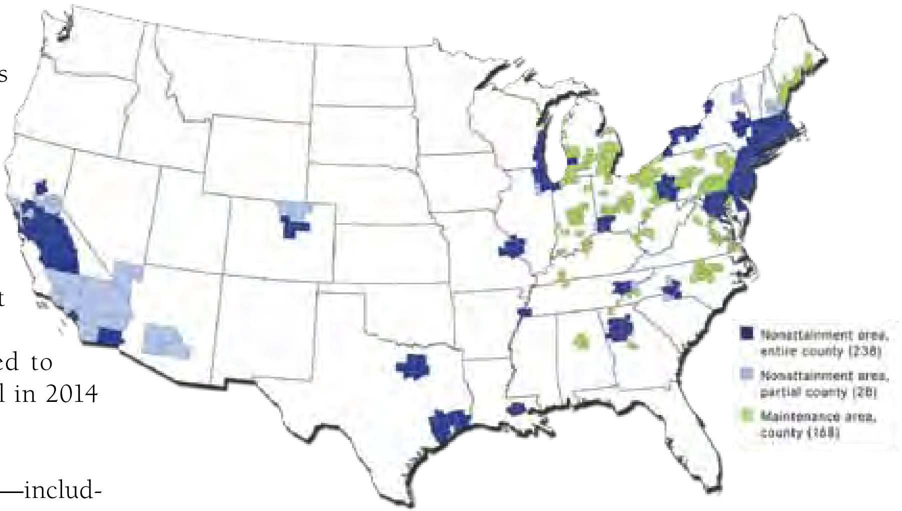

Nonattainment area, entire county (238)
Nonattainment area, partial county (28)
Maintenance area, county (168)

Figure 4. *Air quality non-attainment areas of the United States are large population centers with local air quality issues. These areas may enact more stringent emissions regulations than the EPA.*

efficiency of diesel engines now surpasses 40 percent in some applications, compared to about 27 percent for gasoline engines. Here are the in-engine design changes that have contributed to this major achievement:

- High-pressure common-rail fuel injection — Operating at about 20,000 pounds per square inch, high-pressure common rail fuel injection helps improve combustion by more fully atomizing the fuel so it can burn faster and more completely.
- More precise injection timing — The electronically controlled injector solenoids respond faster than old-style mechanical injectors, allowing more precise timing of the injection—a critical factor in emissions control. Up to three injections per power stroke are possible, depending on the engine application and operating conditions.
- Advanced electronic engine controls — These sensors and controls monitor and manage dozens of operating and enviromental conditions in order to optimize horsepower, torque and response to changes in load. These systems allow the engine to maintain combustion efficiency over a broad range of operating conditions and minimize emissions in the exhaust.
- Advanced turbocharging — New variable-geometry turbochargers automatically compensate for changes in engine speed and power demand. Compound or staged turbocharging will also be used to meet Tier 4 Interim and Tier 4 Final. This technology achieves very high boost pressures by using a first turbocharger to moderately boost and intercool combustion air before this air is fed into a second turbocharger for final boosting and intercooling. This approach achieves much higher thermal efficiency than a single-stage turbocharger, and produces more power without increasing emissions.

Exhaust aftertreatment

While in-engine refinements helped engine manufacturers achieve Tier 2 and Tier 3 standards, Tier 4 Interim and Tier 4 Final regulations will require exhaust aftertreatment to further reduce NOx and PM. The most effective and practical aftertreatment technologies include selective catalytic reduction (SCR) to control NOx and diesel particulate filters (DPF) to capture the remaining PM. While most diesel engines will require SCR to meet the NOx limits for both Tier 4 Interim and Tier 4 Final, some engine models will be able to meet the Tier 4 Final regulations for PM without a DPF. In addition, exhaust gas recirculation (EGR) combined with a DPF may be used in some engine platforms to reduce NOx in place of SCR to meet Tier 4 Final.

Here are the major technologies that will be used on diesel engine generators to meet Tier 4 Interim and Tier 4 Final:

- Selective Catalytic Reduction (SCR) — SCR will be used on some engine-generator applications to achieve Tier 4 Interim and Tier 4 Final regulations. SCR reduces the remaining NOx in diesel engine exhaust by up to 90 percent. It works by combining the exhaust gases with ammonia in the form of urea (or diesel emissions fluid, DEF) and passing the mixture over a catalyst. The result is exhaust that contains harmless elemental nitrogen, water

ARE YOU READY FOR RICE NESHAP?

CAUTION: IT'S NOT A DISH MOST FOLKS WILL ENJOY.

The new National Emissions Standards for Hazardous Air Pollutants for Reciprocating IC Engines: If you run stationary diesels above 300 HP in peak-shaving or other "non-emergency" power gen applications, call us.

Our specialty? Cost-effective *total solutions* that will keep non-compliance penalties – and compliance hassles – off your plate.

Catalytic Converters | SCR | DPF | Silencers | AFRs
Field Service | Training
Over 12,000 systems installed.

Learn more. Visit our website. Send us an e-mail or give us a call.

MIRATECH CORPORATION
EMISSIONS SOLUTIONS FOR INDUSTRIAL ENGINES

800.640.3141 Ext. 126 | miratechcorp.com | info@miratechcorp.com

vapor and carbon dioxide. Roughly one gallon of DEF is required for every 20 gallons of diesel fuel that is burned. SCR-equipped diesel generator sets will be available beginning in 2011 to meet Tier 4 Interim standards. In 2011, SCR will be used to meet Tier 4 Interim regulations in California and certain non-attainment areas for ESP, and all non-emergency applications regardless of location. (See Figure 5.)

SELECTIVE CATALYTIC REDUCTION (SCR)

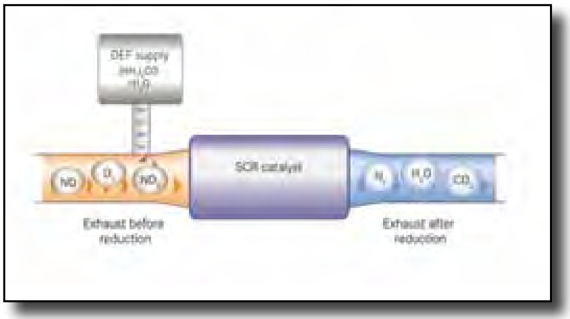


Figure 5. *Selective Catalytic Reduction (SCR) will be the principal aftertreatment technology used to further reduce NOx in diesel exhaust.*

- Diesel Particulate Filter (DPF) — This device traps and incinerates PM (soot particles) in diesel exhaust. The technology will not be required on most diesel engine generator sets to achieve Tier 4 Interim regulations, but it will be required in most power nodes in conjunction with SCR to achieve Tier 4 Final. A DPF uses a mechanical filter to trap soot particles after they have been partially oxidized by a catalyst. At certain intervals during operation, the trapped particles are incinerated. Periodically, inert ash will have to be removed from the DPF. (See Figure 6.) In 2014-2015, a combined DPF-SCR unit will be used to meet Tier 4 Final regulations for ESP in California and certain non-attainment areas, and for all non-emergency applications regardless of location.

DIESEL PARTICULATE FILTERS (DPF)

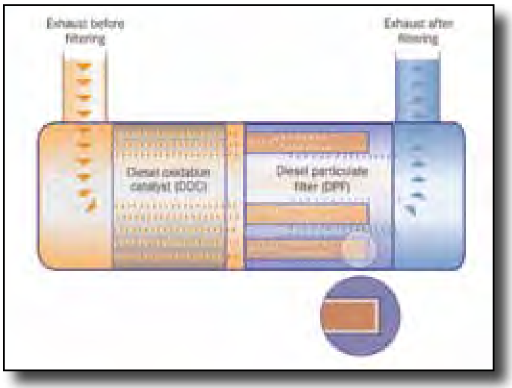

Exhaust before filtering
Exhaust after filtering
Diesel oxidation catalyst (DOC)
Diesel particulate filter (DPF)

Figure 6. *A diesel particulate filter (DPF) traps the carbon particles in diesel exhaust and converts them to ash, which must be periodically removed.*

EXHAUST GAS RECIRCULATION (EGR)

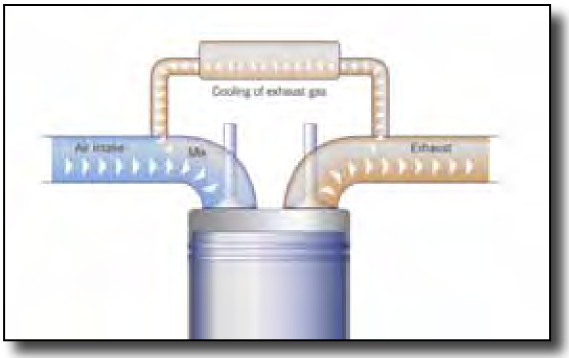


Figure 7. *Another emission control technology, exhaust gas recirculation (EGR), cuts NOx by reducing combustion temperatures using recirculated exhaust gases.*

- Exhaust Gas Recirculation (EGR) — EGR is another technology that may also be used on some engine-generator combinations to reduce NOx in diesel exhaust. EGR works by recirculating a small amount of cooled exhaust gas back into the combustion chamber. This reduces combustion temperatures and effectively reduces the production of NOx. EGR is very effective at reducing NOx, and EGR-equipped engines will not require SCR aftertreatment. However, EGR increases particulate emissions, so a DPF will be needed to meet both Tier 4 Interim and Tier 4 Final regulations. (See Figure 7.)

Conclusions

Engine manufacturers have been working for nearly two decades to perfect emissions control technologies on diesel and spark-ignited engine-powered generators to make sure that compliant systems are in place as the EPA Tier levels become effective. Tier 4 Interim regulations will require SCR or EGR/DPF beginning in 2011 for applications such as prime power, peak shaving or load management. Current Tier 2 and Tier 3 generator sets are EPA-compliant for most ESP applications through 2015 and beyond, except in California and other non-attainment areas.

Tier 4 Final regulations will require technologies such as SCR and DPF beginning in 2014 for nonemergency applications of 750 hp and below; and in 2015 for nonemergency applications of 750 hp and above. Local regulations in California and certain non-attainment areas will require that all diesel generator sets meet Tier 4 Final beginning in the 2014–2015 time frame.

In order to make sure that your onsite power system will comply with all the latest EPA and local emissions regulations, consult your generator set manufacturer and local air-quality authorities.

About the author

Christine Ueno is responsible for certification and regulatory issues for the North American market for all MTU products. Christine has been with MTU for almost four years and was previously with Isuzu Mfg. Services of America for 17 years. Currently, Christine chairs the Engine Manufacturer Association (EMA) Marine/Locomotive Engine Committee. Christine received her Master of Business Administration from the University of Phoenix. ■

Choose the School that's Right for You

Our two-tiered school enables you to choose which education experience is most appropriate for you and get the most out of your training dollar. Use the guidelines below to choose which school you should attend.

Basic School

The Basic School is a general—but still technical—overview of On-Site Power Generation equipment designed for non-technical personnel (i.e., Marketing, Sales, Administrative or Management personnel) and for those with less than three years experience working in the industry.

Each registrant will receive handout materials and instruction, a copy of EGSA's *On-Site Power Generation: A Reference Book*, and lunch on each of the school's three days.

2011 Basic School Schedule

- New Orleans, LA – June 7 - 9
- Minneapolis, MN – October 25 - 27
- Las Vegas, NV – December 13 - 15*
  **To be held concurrently with POWER-GEN International 2011*

Advanced School

In comparison to the Basic School, the Advanced School provides an overview of system equipment that is greater in depth and technical detail. It is designed for those who have already attended the Basic School (i.e., Engineering, Service and Project Management personnel) and for those who have been working in the power generation industry for three or more years.

Each registrant will receive handout materials and instruction, a copy of EGSA's *On-Site Power Generation: A Reference Book*, and lunch on each of the school's four days.

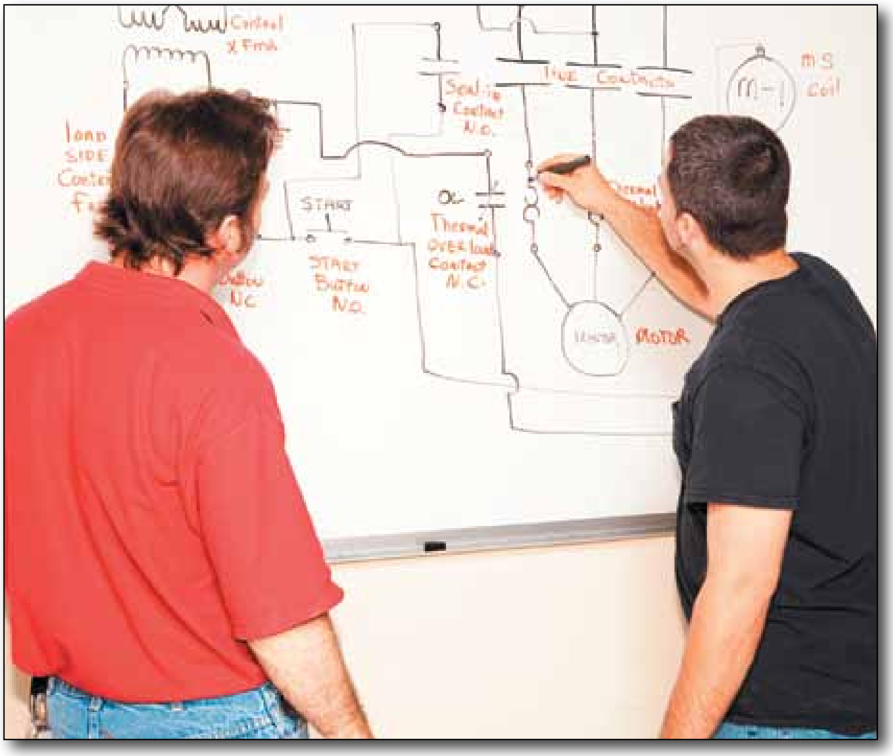
2011 Advanced School Schedule

- Charlotte, NC – April 4 - 7
- Pittsburgh, PA – August 1 - 4

EGSA 2011 On-Site POWER GENERATION Schools

EGSA Electrical Generating Systems Association

The most complete overview of an On-Site Power Generation System available today!



Electrical Generating Systems Association (EGSA)
1650 S. Dixie Highway, Suite 400, Boca Raton, FL 33432
561/750-5575 Fax 561/395-8557 *e-mail@egsa.org*
Visit us online at *www.egsa.org*

Standby for Big Power

Every Baldor generator set, standard or custom, is designed and engineered to meet the individual needs of your application. Whether it's a 2,000 kW genset to keep your industrial facility up and running, or a 30 kW generator for your remote agricultural needs, Baldor has the right products to meet your need.

Engineered to the highest performance standards and built with unmatched quality, Baldor gensets give you the power you need, when you want it.

BALDOR®
GENERATORS

baldor.com 479-646-4711

©2010 Baldor Electric Company

Transitioning from Tier 3 to IT4 engines

By Kyle Tingle, Senior Accounts Manager, Diesel Engine Sales, John Deere Power Systems

The next round of diesel engine emissions regulations from the Environmental Protection Agency (EPA) is just around the corner — and they will have a significant impact on the on-site power generation industry in the months and years ahead.

Interim Tier 4 regulations begin January 1, 2011, for engines 130 kW (174 hp) and above used in prime-power and/or mobile applications, and they require a 90 percent reduction in diesel particulate matter (PM) and a 50 percent reduction in nitrogen oxide (NOx) from previous Tier 3 requirements. The Interim Tier 4 regulation effective date for 56 kW (75 hp) to 130 kW (174 hp) prime-power engines is January 1, 2012.

Because the EPA does not mandate that emergency stationary applications utilize aftertreatment devices, most emergency stationary engines need to achieve only Tier 3 emissions levels (or the previous tier for a given power category).

Now that non-emergency generator engines will have to meet the more stringent Interim Tier 4 standards, it is important for gen-set packagers to understand the technology changes instituted for Interim Tier 4 as well as their new delegated-assembly responsibilities. The move to Interim Tier 4 will require packagers to incorporate the engine with the new exhaust filter, which replaces the muffler in most applications.

Let's examine the Interim Tier 4 technology changes and the delegated assembly process in depth -- using John Deere Power Systems (JDPS) as an example. Keep in mind that other diesel engine manufacturers may have differing approaches and use different combinations of technologies to meet the EPA's increasingly strict emissions standards.

Technology changes

JDPS has taken a building-block approach to comply with Interim Tier 4 regulations. For engines 56 kW (75 hp) and above, the company started with its existing Tier 3 engine platform — which includes cooled exhaust gas recirculation (EGR) for NOx control — and added an exhaust filter for reducing particulate matter (PM). These engines will be available in 4.5L, 6.8L, 9.0L and 13.5L displacements and will feature full-authority electronic controls, a 4-valve cylinder head, a high-pressure fuel system, turbocharging and an air-to-air aftercooling system.

In choosing a solution for Interim Tier 4, John Deere elected not to use selective catalytic reduction (SCR). The single-fluid approach of cooled EGR and exhaust filter technology was chosen because it requires neither the use of diesel exhaust fluid (DEF) nor operator intervention.

The following is a summary of John Deere's primary technology changes to meet Interim Tier 4 requirements:

Aftertreatment

JDPS Interim Tier 4 engines 56 kW (75 hp) and above will utilize an exhaust filter that contains a diesel oxidation catalyst (DOC) and a diesel particulate filter (DPF). Under normal operating conditions, the DOC reacts with exhaust gases to reduce carbon monoxide, hydrocarbons and some PM. The downstream DPF traps and holds particulate matter remaining in the exhaust stream. Trapped particles are eventually oxidized within the DPF through a continuous, natural cleaning process sometimes called passive regeneration, using exhaust heat created under normal operating conditions.

If normal operating conditions cannot be achieved and particulate matter begins to build up, the exhaust temperature management (ETM) system initiates and manages an automatic cleaning process called active regeneration. This process creates the heat needed to oxidize the PM under operating conditions when passive conditions cannot be achieved.

For engines above 130 kW (174 hp), EPA regulations require the DPF service interval to be at least 4,500 hours. For engines below 130 kW (174 hp), the service interval is 3,000 hours. The required service at these intervals consists of exchanging the existing DPF with a cleaned DPF.

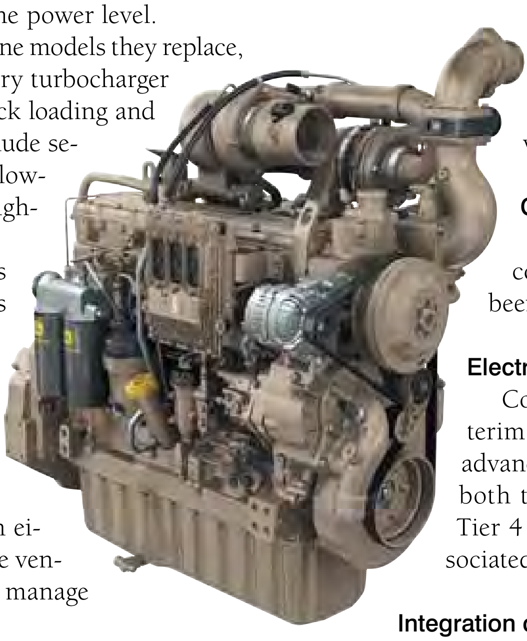
Air system

For Interim Tier 4 engines 130 kW (174 hp) and above, JDPS has elected to continue to leverage variable geometry (VGT) or series turbocharging technology to maintain performance.

Series turbocharging consists of a VGT and a fixed-geometry turbocharger. Engine models 56 kW (75 hp) to 130 kW (174 hp) will be equipped with either a wastegated or variable-geometry turbocharger, depending on the power level.

Compared to the Tier 3 engine models they replace, models with a variable-geometry turbocharger will deliver similar power, block loading and fuel economy. Models that include series turbochargers will have low-speed torque and enhanced high-altitude operation.

Interim Tier 4 regulations require engine manufacturers to also consider crankcase emissions, which must either be managed via a crankcase filter or must be counted in the total engine emissions. The next generation of JDPS engines will be equipped with either a closed or open crankcase ventilation system (CCV/OCV) to manage these crankcase emissions.



Fuel system

For Interim Tier 4, lower PM emissions are achieved by increasing the injection pressure of the given high pressure fuel system.

EGR system

JDPS has chosen to include a larger EGR cooler and valve to support the increased EGR flow for Interim Tier 4. The combination of a Venturi and mass-flow sensor will provide dynamic EGR control by precisely measuring exhaust flow to prevent large variances (too high would mean increased heat rejection; too little would mean reduced fuel economy).

Cooling and lube systems

To accommodate the growth in power density, coolant flow and lube pump and cooler capacity have been increased.

Electronic controls

Compared to its Tier 3 counterpart, John Deere's Interim Tier 4 engine control unit (ECU) will allow for more advanced engine control and will manage all functions of both the engine and the aftertreatment device. Interim Tier 4 required the addition of sensors and actuators associated with the air and aftertreatment systems.

Integration considerations

The addition of exhaust filters to engines for Interim Tier 4 may require gen-set packagers to consider changes to their engine compartment layout.

YOU CAN COUNT ON US WHEN
ACCESSORIES
BECOME
NECESSITIES

At GT Exhaust, we offer a full line of exhaust accessories that fit nearly all silencers in the marketplace. We have accessories to meet your needs whether you require a standalone piece or a more elaborate system. With a number of standard sizes in stock, we offer next-day delivery on many of our accessories. We also provide custom engineering to get you the perfect solution for your order specifications.

Our experienced team of channel partners and product specialists are ready to get the right accessory in your hands as quickly as possible.

Visit gtexhaust.com/accessories or call 1.855.463.7427 for more details.

GT EXHAUST
a clear direction for the future

Packagers should understand their application guidelines and follow their engine manufacturer's detailed installation instructions for mounting of the aftertreatment component. The size and weight of the new exhaust filters are important considerations:

- For 175 hp to 750 hp engines, JDPS exhaust filters weigh 75 to 150 pounds and measure 12 to 15 inches in diameter and 34 to 39 inches in length.
- For 75 to 175 hp engines, exhaust filters weigh 44 to 68 pounds with a diameter of 9.8 to 12.6 inches and a length of 22.6 to 25 inches.

Packagers should also consider fitting their exhaust outlet with a diffuser to control the temperature of exhaust gas expelled to the environment during an active regeneration. The exhaust filter will provide some sound silencing (similar to a typical muffler), but the stringent silencing requirements for gen-sets may call for additional silencing measures.

Exhaust filter packaging

Special consideration has been given to the shipping and handling needs of packagers, distributors and dealers.

Exhaust filter handlers should wear gloves and utilize appropriate lifting equipment — including slings and hoists — to ensure balance during maneuvering of the device. They also should use fixtures to perform subassembly.

Delegated assembly: exhaust filter tracking

EPA regulations allow engine manufacturers to ship engines and aftertreatment devices separately to equipment manufacturers.

John Deere will ensure compliance by retrieving serial numbers assigned to each DPF, DOC and parent engine and utilizing custom software to confirm that each exhaust filter is paired with the appropriate engine.

Any time a component of the exhaust filter requires replacement, the serial numbers must be retrieved and documented (on both the old and new component) through a reprogramming sequence.

Delegated assembly: OEM/distributor process

Packagers will be responsible for installing the engine and exhaust filter into their power unit and — per installation instructions — "marrying" the engine and aftertreatment device through a simple programming event.

The delegated assembly process will begin with the order of an engine and exhaust filter on a one-for-one basis — one exhaust filter per parent engine. The engine and exhaust filter will be invoiced and shipped separately to the OEM or distributor.

During installation of the exhaust filter and engine into the power unit or vehicle, the OEM or distributor must scan the serial numbers of the engine, DOC and DPF and perform an exhaust-filter reprogramming sequence that will take approximately one minute.

Programming tools provided to the packager will automatically retrieve ECU data and carry out mistake-proofing by checking serial numbers to confirm the correct exhaust filter was installed. The software sends JDPS a file containing a record of exactly which engine is mated with which exhaust filter, and a server manages the data long-term, making it available for any future service needs.

If a packager fails to perform the programming event to input exhaust filter data into the ECU, the engine will de-rate.

Emissions label changes

The onset of Interim Tier 4 emissions regulations also will bring changes to labeling requirements. Nonroad diesel engines 130 kW (174 hp) and above sold in 2010 (meeting the Tier 3 emission levels) could be utilized in any gen-set application (mobile or stationary).

Starting in 2011, new gen-set units sold for mobile applications will need to either meet Interim Tier 4 emissions or utilize the EPA's Equipment Flexibility provision, which is intended to ease the transition between tiers by allowing OEMs to sell a limited number of machines utilizing previous-tier engines.

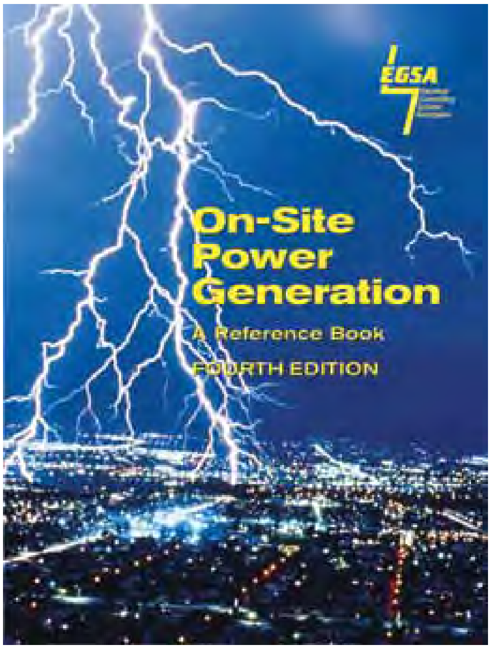
Stationary engines (regulated by the New Source Performance Standards in 40 CFR Part 60) do not have the ability to utilize this equipment flexibility provision. However, emergency stationary applications are exempt from Interim Tier 4 regulations, so those applications will be able to continue utilizing Tier 3 engines. Prime stationary applications must use Interim Tier 4 engines and be labeled accordingly.

Each of these scenarios calls for different emissions label verbiage, creating multiple engine specifications for the packager to manage.

There are other labeling requirements as well. If the emissions label is obscured during installation so that the label is unreadable during normal maintenance, a duplicate emissions label must be placed on the equipment. If an engine is being used under the Tier 4 equipment flexibility provision, a supplemental vehicle label must be applied. Fuel sulfur level requirements must be indicated on a fuel inlet label.

About the author

Kyle Tingle is a 15-year veteran with John Deere, including over 12 years of engine application engineering and engine sales experience. His main focus is on emergency stationary and rental market segments. He holds a B.S. degree in both agricultural engineering and mechanical engineering from South Dakota State University, and has an MBA from the University of Iowa. As the EGSA representative for JDPS, he has been an active member since 2007. He currently serves as Secretary on the Market Trends Committee. ■



The Last Word In On-Site Power.

EGSA's *On-Site Power Generation: A Reference Book* is widely regarded by On-Site Power professionals as the "bible" of the On-Site Power Industry.

In fact, EGSA's *Reference Book* is so highly regarded and widely recognized that five of the seven technical schools that offer On-Site Power Generation Technician training programs have adopted the *Reference Book* as their text.

If the educators who helped train your Generator Technicians keep EGSA's *Reference Book* on hand, shouldn't you?

The Book is in Stock! Order Your Copy Today!

Published by the Electrical Generating Systems Association

EGSA Member Price: $125 (US) • Non-Member Price: $225 (US)

________ Copies x ________ (Price) = US$ ____________

+ 6 % Florida Sales Tax *(FL residents only)*** ____________

+ Shipping** ____________

TOTAL US$ ____________

Quantity Discounts
0-4 = None
5-10 = 10%
11-20 = 20%
21-50 = 30%

Schools should contact EGSA for Academic Discounts!

For Shipping within the Continental U.S. *(not including Alaska, Hawaii, or Puerto Rico)*: add $5 per book for shipping costs.

For shipping outside the Continental U.S.: call (561) 750-5575 or fax (561) 395-8557 for a shipping cost quote.

Payment

IMPORTANT! FULL PAYMENT MUST ACCOMPANY THIS FORM.
Faxed forms **must** include credit card numbers or they will not be processed.

☐ My Check *(payable to EGSA in U.S. funds)* is enclosed.

☐ American Express ☐ VISA ☐ MasterCard

Card # ______________________________

Name on card: ______________________________

Exp. Date: ____________ Security Code*: ____________

**VISA/MC: the last 3 digits of the number printed on the back of the card; AMEX: 4-digit number above the card number on the front of card.*

Credit Card Billing Address:

____

____

Signature: ______________________________

Shipping

Please Note: We do NOT ship to P.O. Boxes.
Please provide a physical street address to avoid delays.

Ship to (Name): ______________________________

Company: ______________________________

Street Address: ______________________________

____

City/State/Zip: ______________________________

Country: ______________________________

Phone: ______________________________

FAX: ______________________________

Email: ______________________________

Fax this form with payment to **561/395-8557**

Or mail this form with payment to EGSA • 1650 S. Dixie Hwy, Ste. 400 • Boca Raton, FL 33432

Lectrus:

Engineered to Spec, Built to Last

Another in Our Series of Profiles of EGSA Member Companies

Lectrus (formerly known as D.T.S. and Metal Systems) was founded in 1968 by the Steffner family as a division of Electrical Systems, Inc.(ESI), an engineering and manufacturing company supplying control equipment to the textile and paper industries. Metal Systems continued as a captive manufacturing subsidiary of ESI until 1993, when increased demand for products caused it to be incorporated as a separate company. The company grew organically alongside ESI until 2000, when NSC purchased the operating assets of ESI.

In 2004, to fuel expansion, the operating assets of Cleveland Manufacturing, a Houston-based competitor, were acquired. This transaction allowed the company and its customers to compete on equal footing in the Midwest and Western U.S. and provided access to the Gulf coast ports and major engineering firms located in Houston. In 2007 RFE Investment Partners, a private equity investment firm based in New Canaan, Ct., purchased the company.

In 2009, Metal Systems changed its name to Lectrus to build a consistent brand and reflect the value and vision of the company. In 2010 Lectrus acquired D.T.S., Inc. of South Dakota, a manufacturer of custom steel and aluminum enclosures, subbase tanks and trailers for the commercial generator market.

Deron Austin, VP Marketing, attributes his company's success to an empowered workforce. Employing a team of individuals with extensive industry experience, the entire company roster has the knowledge, experience and team approach it takes to assure quality, top-level service over the course of completing even the most complex projects.

Lectrus considers its customers, generator dealers and distributors in the U.S. and abroad, to be true business partners.

LECTRUS IS…

…privately held company located in Chattanooga, TN. Lectrus is an electrical systems integrator and custom metal enclosure designer and manufacturer, offering a unique combination of services: custom engineering, project management, electrical integration, site installation and post-sale customer support. Lecrus' product line of equipment centers, operator centers, custom cabinets, skids, generator enclosures, sub-base fuel tanks and trailers offer both protection and flexibility. The centers are movable and expandable and the enclosures are engineered to order, and generator packages and equipment skids provide instant mobility.

For more information visit *www.lectrus.com*.

A commitment to these customers, along with, providing high quality products and services is viewed by the company as paramount to its success.

Lectrus is optimistic that 2011 will prove to be very strong for the On-Site Power markets. Lectrus will continue to focus on innovation, business development and expansion through acquisition, in the years to come. While not relying on foreign markets to reach annual business goals, the company also considers emerging markets as a promising opportunity.

An EGSA member since 1999, Lectrus views membership as a tremendously valuable resource for education, networking and as a venue for building value with dealers, consultants and contractors. ■

NEW EGSA MEMBERS

MF=Manufacturer DD=Distributor/Dealer CI=Contractor/Integrator MR=Manufacturers Rep
EM=Energy Management Co. AA=Trade Publication AB=Trade Association AC=Engineer
AD=End-User AE=Service AG=Educational Institution AR=Retiree AF=Student

Eau Gallie Electric, WC. CI
Melbourne, FL
Chris Hughes, President
Since 1948, Eau Gallie Electric has been serving the electrical contracting and generator needs for residential, commercial, and municipal customers. Manufacturer's rep for Tradewinds Power Corp and Generac Power Systems.

Electrical Installation & Service Corporation. CI
Caguas, PR
Cesar Villafaña, Customer Representative Manager
Our company is engaged in the acceptance and maintenance of electrical equipment, such as transformers, switchgear, automatic transfer switches, generator sets and engineering supports.

James V. Baugh . . . . AC
Lafayette, LA
I design and direct the construction of controls integration with regards to generators.

McKinley Group . . . . AE Full
Minnetonka, MN
Brad Snedeker, Sr. Engineering & Operations Consultant
We provide engineering and operations talent acquisition services to leading manufacturers within the power generation and related engine & engine systems manufacturing industry.

Ruben Abreu . . . . .AF
Miramar, FL
I am a student at FAU in Boca Raton, FL majoring in Mechanical Engineering. I anticipate graduating in December 2013.

Are You Looking for Qualified Generator Technicians?

Always ask for EGSA Certified Generator Systems Technicians! EGSA Certification demonstrates that the Technician has the necessary knowledge and expertise to service today's complex — and expensive — On-Site Power Generating Systems and Equipment.

UNIVERSAL
Acoustic & Emission Technologies

ATTENTION PACKAGER$

RICE NESHAP = REVENUE FOR YOU!
- Catalyst sales
- Monitoring equipment sales
- Installation labor

If your customers aren't asking about their engine's compliance – THEY WILL!

Is this package RICE NESHAP compliant?

Universal understands the ruling and can help!

Universal Provides:
- Standard product lines = *Easier for your staff to size and install*
- Compliance requirements calculator = *Easy to use and understand*

For more information, visit
www.universalAET.com/RICE-NESHAP
or call 888-300-4272

Heavy Duty Thermal Coolant

EVANS™
WATERLESS ENGINE COOLANT

No Coolant Change-outs Necessary
Reduced Toxicity
No Overheating
Waterless Formula Prevents Corrosion

www.EvansCooling.com
860.668.1114

Permanent Cooling Protection

Dealer Inquiries Welcome

Protects against cooling system failures from -40° F to 375° F

Application for Membership

ELECTRICAL GENERATING SYSTEMS ASSOCIATION

1650 South Dixie Highway, Suite 400, Boca Raton, FL 33432 • 561-750-5575 • FAX 561-395-8557
E-Mail: *e-mail@EGSA.org* • World Wide Web: *www.EGSA.org*

Under the leadership of its Board of Directors and operating through its various committees and staff, EGSA strives to educate, provide networking opportunities and share relevant knowledge and trends with industry professionals including manufacturers, distributor/dealers, engineers, manufacturer representatives, contractor/integrators and others serving On-Site Power consumers.

1. Contact Information

Please type or print all information in upper and lower case (NOT ALL CAPS!)

Company ______________________________

Address ______________________________

City ______________________ State/Province ______________________

Zip/Postal Code ______________________ Country ______________________

Phone ______________________ FAX ______________________

Official Representative ______________________ Title ______________________

Representative's E-Mail ______________________ Company's Web Address ______________________

How did you hear about EGSA? ☐ Web site ☐ *Powerline* magazine ☐ Colleague ☐ POWER-GEN ☐ Other ______________

Why are you joining EGSA? ☐ Certification Program ☐ CEU Program ☐ Power Schools ☐ Buying Guide Listing ☐ Other ______________

2. Member Classification

Read the Membership classifications below and check the box that describes your firm's classification.

I. FULL MEMBERSHIP

☐ MF **Manufacturer Membership**

Any individual, sole proprietor, partnership or corporation seeking membership must apply for a Full Membership as a manufacturer if they meet one or more of the following criteria:

1. They manufacture prime movers for power generation.
2. They manufacture generators or other power conversion devices producing electricity.
3. They manufacture switchgear or electrical control devices.
4. They manufacture or assemble generator sets, UPS systems, solar power, hydropower, geothermal, or any other power production or conversion system including related components or accessories for national or regional distribution.
5. They are a wholly owned subsidiary of a firm that qualifies under rules one through four.

☐ DD **Distributor/Dealer Membership**

Any individual, sole proprietor, partnership or corporation actively engaged as a distributor or dealer for products listed under Manufacturer Membership may apply for Full Membership as a Distributor/Dealer. If an organization qualifies under Manufacturer Membership, it is not qualified under this section.

☐ CI **Contractor/Integrator Membership**

Any individual, sole proprietor, partnership or corporation actively engaged as a Contractor or Equipment Integrator of products listed under Manufacturer Membership, not bound by brand, geographic territory or contractually obligated as a Distributor/Dealer of a specific product. These firms typically purchase products from a Distributor/Dealer, Manufacturer or Retailer, adding value through installation, product knowledge, relationships, unique services, etc., and then re-sell the resulting product to an end-user.

☐ MR **Manufacturer's Representative Membership**

Any individual, sole proprietor, partnership or corporation actively engaged in the representation of products listed under Manufacturer Membership may apply for Full Membership as a Manufacturer's Representative. If an organization qualifies under Manufacturer Membership, it is not qualified under this section.

☐ EM **Energy Management Company Membership**

Any individual, sole proprietor, partnership or corporation engaged in energy management, including Energy Service Companies (ESCOs), Independent Power Producers (IPPs), Integrators, Aggregators, and other similar enterprises may apply for Full Membership as an Energy Management Company.

☐ **Associate Full Membership** *(mark appropriate category at right)*

Any individual, sole proprietor, academic institution, student, partnership or corporation meeting the requirements of Associate Regular Membership may apply for Full Membership at their option to enjoy the privileges of Full Membership, including the rights to vote and to serve on EGSA's Board of Directors. Initiation fees and annual dues will be assessed at the existing non-manufacturer Full Member rates.

II. ASSOCIATE REGULAR MEMBERSHIP

☐ AA **Trade Publication Membership**

Any trade publication dealing with the electrical generating systems industry or its suppliers may apply for Associate Membership–Trade Publications.

☐ AB **Trade Association Membership**

Any trade association made up of individual or company members sharing a common interest in the electrical generating systems industry may apply for Associate Membership–Allied Associations.

☐ AC **Engineer Membership**

Any consulting or specifying engineer may apply for Associate Membership–Engineer. Membership may either be held in the employer's name or individual's name under this classification. Individuals whose employer qualify as a Full Member, as described in the Full Membership section, do not qualify for this category.

☐ AD **End-User Membership**

Any individual employee of a company who owns or operates electrical generating equipment and/or related switchgear or components, whose responsibility to his employer includes planning, design, installation, supervision, or service of such equipment may apply for Associate Membership–User. Membership may either be held in the employer's name or individual's name under this classification. Individuals whose employer qualify as a Full Member, as described in the Full Membership section, do not qualify for this category.

☐ AE **Service Membership**

Any individual, organization or academic institution that offers services such as research, testing or repair to the electrical generating systems industry may apply for Associate Membership–Services. Membership may either be held in the individual's name or the organization's name under this classification. Individual companies whose employer or parent organization qualifies as a Full Member, as described in the Full Membership section, do not qualify for this category.

☐ AG **Educational Institution Membership**

Any postsecondary vocational-technical school or college offering on-site power generation-related instruction may apply for Associate Membership–Education Institution.

☐ AR **Retiree Membership**

Any individual who retires from a member company may apply for Associate Membership–Retired. This classification does not apply to any individual who is employed more than 20 hours per week.

☐ AF **Student Membership**

Any individual currently enrolled at an academic institution may apply for Associate Membership–Student.

Application for Membership – page 2

Dues Schedule (Use for Section 3)

	Annual Dues	Initiation Fee	TOTAL
Manufacturer	$825	~~$200~~	$825
Distributor/Dealer	$285	~~$100~~	$285
Contractor/Integrator	$285	~~$100~~	$285
Manufacturer's Rep	$285	~~$100~~	$285
Full Associate Member	$285	~~$100~~	$285
Energy Management Companies	$200	~~$200~~	$200
Regular Associate Member	$200	~~$100~~	$200
Retiree Member	*Complimentary*	~~$0~~	$0
Student Member	*Complimentary*	~~$0~~	$0

Initiation Fee Waived Through 3/31/2011

NOTE: A FULL 12-MONTH DUES PAYMENT MUST BE RECEIVED WITH THIS APPLICATION. The Association's Membership Year is January 1 through December 31. Dues payments that extend beyond the first Membership Year will be applied to the second year's dues.

FULL PAYMENT MUST BE RECEIVED WITH APPLICATION.

3. Membership Dues (Please fill in the appropriate TOTAL amount from the above dues schedule.)

Membership Dues $__________

Membership Plaque (optional)** $ 49.95**

On-Site Power Reference Book (optional)** $ 125.00**

Florida Residents: Add 6% Sales Tax to ** items $__________

*Continental US Residents add $5 shipping/handing to**items.* $__________

*Non Continental US Residents should call EGSA Headquarters for shipping charges for **items.* **TOTAL** $__________

4. Payment Method (Payable in US$ drawn on U.S. bank, U.S. Money Order, or American Express)

☐ Check #____________ Amount Due $ __________

☐ Money Order

☐ Mastercard ☐ Visa ☐ American Express

Card # ______________________________ Exp. Date ______

Signature: ____

Print Name: ______________________________________

5. Products/Services

Please describe the nature of your business (50 words or less, NOT ALL CAPS). If you are a Manufacturer's Representative or Distributor/Dealer, please indicate which manufacturers you represent and/or distribute for; if you are a student, please provide the name and location of your school, your major and your anticipated graduation date:

Do you buy AND sell equipment? ☐ Yes ☐ No

Do you manufacture packaged equipment? ☐ Yes ☐ No

Available Codes:

01 ---Batteries/Battery Chargers
02 ---Control/Annunciator Systems
29 ---Education
30 ---Emission Control Equipment
04 ---Enclosures, Generator Set
05 ---Engines, Diesel or Gas
06 ---Engines, Gas Turbine
07 ---Engine Starters/Starting Aids
08 ---Filters, Lube Oil, Fuel or Air
28 ---Fuel Cells
03 ---Fuel Tanks and Fuel Storage Systems
09 ---Generator Laminations
10 ---Generator Sets
11 ---Generators/Alternators
12 ---Governors
13 ---Heat Recovery Systems
14 ---Instruments and controls, including meters, gauges, relays, contactors, or switches
15 ---Load Banks
16 ---Motor Generator Sets
17 ---Radiator/Heat Exchangers
18 ---Relays, Protective or Synchronizing
19 ---Silencers/Exhaust Systems/Noise Abatement
20 ---Solenoids
21 ---Swtichgear and Transfer Switches (Automatic or Manual), Bypass Isolation Switches, and/or Switchgear Panels
22 ---Trailers, Generator Set
23 ---Transformers
24 ---Uninterruptible Power Supplies
25 ---Vibration Isolators
26 ---Voltage Regulators
27 ---Wiring Devices or Receptacles

Enter codes here:

Products sold: ______________

Products rented: ______________

Products serviced: ______________

6. Sponsor(s)

: A"Sponsor" is an EGSA Member who interested you in filling out this application. It is not mandatory that you have a sponsor for the Board to act favorably on this application; however, if a Member recommended that you consider membership, we request that individual's name and company name for our records.

Sponsor Name ________________________________ Company Name ________________________________

7. Official Representative's Authorization

Signature ____ Date ____________________

QUALITY IS NOT OPTIONAL

Hennig Enclosure Systems is committed to quality in every process, from sales through engineering, manufacturing, and service.

We believe that our customers want a partner that…

- > **Is Attentive From "The Get Go" –** Our total commitment to customer service is unmatched in the industry. Our sales quotes are turned around at lightning speed with full attention to detail and at a price that can't be beat.
- > **Provides Innovation & Customization –** With our experienced degreed engineers, Hennig can design anything you need from basic enclosures and tanks to fully customized models with every imaginable option.
- > **Believes That Quality Is Not Just "A Given" –** Hennig is ISO 9001 certified, and our stringent quality standards must be met or exceeded for every process.
- > **Won't Leave 'Em Hanging –** Our service and follow-up is unlike any other, with service centers strategically positioned throughout the United States, Canada, and Mexico.

Give us a call today and experience why Hennig Enclosure Systems should be your number one partner for your power packaging needs.

1-888-HENNIG6 (1-888-436-6446)
www.hennigenclosuresystems.com

CERTIFIED QUALITY MANAGEMENT SYSTEM ISO 9001:2008
ANAB DNV

HENNIG®
ENCLOSURE SYSTEMS

Global Coverage Of The Power Generation Markets

Industry News . . . From Kilowatts To Megawatts

DIESEL PROGRESS
ENGINE TECHNICAL REVIEW
DIESEL & GAS TURBINE PUBLICATIONS
PROGRESS
Diesel & Gas Turbine WORLDWIDE
34 Power Generation Order Survey
ERN
DNN
GSGnet.net
GLOBAL GENERATOR SETS.com

Print, Digital, Online — Your Choice — We Deliver

Visit Us At www.dieselpub.com

DIESEL PROGRESS
PRODUCTS • TECHNOLOGY • INDUSTRY NEWS

DIESEL PROGRESS INTERNATIONAL

Diesel & Gas Turbine WORLDWIDE
DEDICATED TO ENGINE ROOM PRODUCTS, TECHNOLOGIES & NEWS

GSGnet.net
GlobalSourcingGuide

GLOBAL GENERATOR SETS.COM

Stay Competitive with the EGSA Electrical Generator Systems Technician Certification Program

Do your techs wear this patch? This is the uniform patch worn by Certified Technicians. It sends a clear message that this Tech and his Employer are special. The Tech has proven his skill and knowledge by passing a rigorous test; his Employer is committed to excellence and high standards. Certified Technicians can proudly use the title "EGSA Certified Electrical Generator Systems Technician."

EGSA Member Item Number	Non-Member Item Number	Quantity	Item Description	EGSA Member Price	Non-Member Price	Item Total
FSU 089			EGSA Electrical Generator Systems Technician Certification Test (EGSA Member)	$130		
	FSU 090		EGSA Electrical Generator Systems Technician Certification Test (Non-Member)		$395	
FSU 091			EGSA Electrical Generator Systems Technician Certification Study Guide (EGSA Member)	$40		
	FSU 092		EGSA Electrical Generator Systems Technician Certification Study Guide (Non-Member)		$80	
FSU 126			EGSA Reference Book Bundle—Study Guide plus *On-Site Power Reference Book* (EGSA Member)	$175		
	FSU 127		EGSA Reference Book Bundle—Study Guide plus *On-Site Power Reference Book* (Non-Member)		$315	

6% sales tax applies to sales of Study Guides to Michigan Residents ONLY. If your Michigan company is tax exempt, please fax a copy of your tax exempt status or include a copy with this order form when ordering by mail. Please note: Each person taking a test will pay a proctoring fee of approximately $40 at the time of testing. These fees are paid to administer the test and to send it to Ferris State University for scoring. Proctoring fees may vary by location.

Sub Total	
MI Residents Add 6% Sales Tax *(See Note)*	
TOTAL DUE	

Payment

IMPORTANT! FULL PAYMENT MUST ACCOMPANY THIS FORM.
Faxed forms **must** include credit card numbers or they can not be processed.

☐ Check *(made payable to Ferris State in U.S. funds)*

☐ Purchase Order Number ______________________________

☐ American Express ☐ VISA ☐ MasterCard ☐ Discover

Credit Card # ______________________________

Cardholder: ______________________________

Exp. Date: _________ Security Code/CVV2 Number*: _________

**VISA/MC: the CVV2 is the last 3 digits of the number printed on the back of the card; AMEX: the CVV2 is the 4-digit number above the card number on the front of card.*

Credit Card Billing Address:

____

____

____

IMPORTANT! YOUR SIGNATURE MUST ACCOMPANY THIS FORM.

By my signature below, I acknowledge that the EGSA Technician Certification Test is designed and intended for electrical power generator equipment technicians with a minimum of three years experience, and that I meet that experience requirement.

Signature: ______________________________

Print Name: ______________________________

Shipping

Please note: shipping to a physical street address will avoid delays. Shipping costs are included in U.S.A. deliveries. Shipping outside the U.S.A. is additional. If your shipment is outside the U.S.A, contact Ferris State to determine the actual charges.

This address is a ☐ Residence ☐ Business ☐ Both

Ship to (Name): ______________________________

Company: ______________________________

Address 1: ______________________________

Address 2: ______________________________

City: ______________________________

State: ______________ Zip: ______________

Phone: ______________________________

FAX: ______________________________

Email: ______________________________

Mail or Fax this completed form with payment to

Fax 231-591-5821
Ferris State University
EGSA Certification Program
1020 Maple Street-Suite 117 • Big Rapids, MI 49307
Toll Free 866-880-7674 • Direct Line 231-591-5822

EGSA JOB BANK

Generator Field Technician-Experienced

Full-time experienced generator field technician opening in Ft. Lauderdale, FL. Requires advanced knowledge of standby generator systems with minimum 5 years experience. Working knowledge of 12 & 24 VDC controls. Company offers a full comprehensive benefits package. Competitive wage, company vehicle, laptop and cell phone for qualified candidates. Send resumes to *careers@acfpower.com* or fax to HR at 813-621-6980. **EGSA Certified Technicians Preferred.**

Power Systems Service Manager

TAW® is looking for an experienced Power Systems Service Manager for our location in Pompano Beach, FL. TAW® is the primary distributor for Kohler Power Systems in the state of FL and S.GA. Will manage day to day operations to include directing generator technicians, troubleshoot complex issues, provide technical assistance and training, daily work schedules and ensure customer satisfaction. Must have working knowledge and ability to inspect, service, and repair generator equipment with 5 or more years experience in a managerial or supervisory role in the power generation industry preferred. TAW® offers a competitive salary and benefits package. E-mail resumes to *ellen.donegan@tawinc.com* or fax resumes to (813) 217-8076. AA/EOE. DFWP. *www.tawinc.com*

Generator Service Technicians

CJ's Power Systems in Florida, a distributor for MTU Onsite Energy is currently seeking qualified technicians throughout the state. Job includes: performing planned maintenance, diagnostics, repairs, and startups of generators. Knowledgeable, computer skills, clean driving record a must. Excellent pay, medical, and other benefits. Email resumes: *jobs@cjspower.com*; fax to 352-732-0606 **EGSA Certified Technicians Preferred.**

Sales

CJ's Sales & Service has been in the industry for 40 years and is a distributor for MTU Onsite Energy. Looking for a highly motivated, knowledgeable, and experienced salesman for equipment, service, and rentals. Clean MVR, drug test necessary. Competitive pay, commission, vacation, health, dental. Email resumes: *jobs@cjspower*.com fax: 352-732-0606

Generator Technician

Full-time experienced generator field technician needed for Central Florida/Lakeland area. Applicant must have diesel engine experience and transfer switch knowledge, preferably **EGSA Certified Technicians.** Job includes performing preventive maintenance, repairs, and startups of generators. Clean driving record a must and applicant must pass drug screening. Competitive wages and benefits. Email resumes to *skapparos@suregen.com*

Generator Sales

Central Power Systems & Services, Inc. has immediate opening for Generator Rental Manager based out of Kansas City, plus Generator Sales positions in Wichita, KS and Springfield, MO. We offer a strong base wage, incentive program and a full benefit package (including company car, gas allowance, expense card, FREE MEDICAL insurance, FREE LIFE insurance, paid vacation, profit sharing and 401(k), etc.). Fax a cover letter, salary requirements and your resume to 816-781-4518 or e-mail it to *jobs@cpower.com* EOE

EGSA Job Bank Guidelines

EGSA will advertise (free of charge) EGSA Member company job openings in the Job Bank. Free use of the Job Bank is strictly limited to companies advertising for positions available within their own firms. Companies who are not members of EGSA and third-party employment service firms who service our industry may utilize the Job Bank for a $300 fee. Blind box ads using the EGSA Job Bank address are available upon request; company logos may be included for an additional fee. EGSA reserves the right to refuse any advertisement it deems inappropriate to the publication. Please send your classified ad (limited to about 50 words) to: EGSA Job Bank, 1650 S. Dixie Hwy, Suite 400, Boca Raton, FL 33432. Or, send it via e-mail it to: *J.Kellough@EGSA.org*

Generator Technician

KELLY GENERATOR & EQUIPMENT, INC., the mid-Atlantic leader in standby electrical generators is seeking experienced Generator Technicians. We are a full service distributor of emergency standby and prime power located in the mid-Atlantic region that covers Delaware, Maryland, Northern Virginia, West Virginia and Washington, DC.

SALES, SERVICE, PARTS, RENTALS & TRAINING

- We offer factory training on the lines we represent as well as "in house" training
- Medical, dental, vision, 401(k), profit sharing, short and long term disability, paid holidays, annual leave, overtime and paid "On Call"

Must have a High School Diploma (Vo-tech or GED), 3 – 5 years experience servicing industrial generator sets and associated equipment. Must be able to service, repair and troubleshoot the engine, as well as the alternator end and controls of the equipment. E-mail resumes to *dkelly@kge.com* **EGSA Certified Technicians Preferred.**

Rental Salesman for CT and NY

ElecComm Power Services ('EPS') is a company that specializes in the rental and service of emergency power. EPS is actively seeking a rental salesman for CT and NY areas -Create Sales/Marketing budget -Contribute to developing a long term business plan -Develop new business opportunities and manage existing accounts -Deliver sales presentations -Quote prices, contract terms, and help coordinate projects. Contact *bkerins@eleccommps.com*

Sales/Marketing/Project Management Pro Available

After a long career working for several Companies active in the on-site power industry, I retired in April 2009 thinking that my business days were over. However, due to changes not anticipated, I now want to re-enter the business community, and am looking for an opportunity to put my 48 years of experience back to work. This can be as an employee on the Company payroll, as a business consultant, or as a contract employee off the payroll. My salary needs are minimal to suppliment other retirement income, and there is no need for the traditional payroll taxes or benefits, so I may be able to fill a need at a relatively low cost. My background is in Sales, Marketing and Business Administration, plus the development and direction of multi-level distribution and independent sales representation both within the US and overseas. Positions have been held with Cummins Engine, Waukesha Dresser, Industrial Power Systems, and several engine/power systems fabricators and distributorships. Resume available on request. Contact me directly at *yourmickeys@comcast.net* or at 904.891.6400. -- Jerry Steinberg

Generator Field Technicians

TAW® is searching for experienced Generator Field Technicians in Orlando & Tampa, FL. Duties include: inspections, repairs, services and start-up of generators & ATS. Troubleshoot generators & automatic transfer switches. Diesel engine experience desired. E-mail resume to *ellen.donegan@tawinc.com*. Fax (813) 217-8076.AA/EOE. DFWP. *www.tawinc.com* **EGSA Certified Technicians Preferred.**

Industrial Switchgear Product Specialists

TAW® is looking for Ind. Switchgear Product Specialists for our Power & Distribution & Switchgear Div at our Custom Equipment facility in Riverview, FL. Will increase sales of switchgear & power equipment centers for low & medium voltage product lines with new & existing accounts. Will target customers for utilities; OEM's & municipalities to drive volume. Prior exp either selling, or application engineering of, industrial switchgear systems. Prior experience working for a manufacture, or re-seller of industrial switchgear – medium or low voltage in either an engineering; applications; or sales role. TAW® offers a competitive salary and commission as well as benefits. Candidates can be based, & will cover the following markets: Houston, Atlanta, Charlotte & Birmingham. Candidates can e-mail resumes to *ellen.donegan@tawinc.com*. or fax resumes to (813) 217-8076;. AA/EOE. DFWP. *www.tawinc.com*

National Account Manager
Generac Power Systems – Waukesha, WI

Manage the corporate relationship between Generac and Key Industrial Account groups. With prior experience in Capital Equipment sales, you will be the SME for Generac's existing sales support team for the assigned industrial product categories. You will provide program development and product promotions aimed at increasing dealer engagement. *www.generac.com*

Generator Service Technicians

We are growing! Genset Services, Inc. is seeking qualified generator technicians for our Central and South Florida branches. Working knowledge of Diesel and Gaseous engine driven generator sets is required including service/maintenance, troubleshooting/repair of AC and DC electrical and control systems as well as strong computer skills. Ideal candidate will have neat appearance and clean driving record. We offer a competitive compensation package including company vehicle, health insurance, vacation and an investment plan. Please forward your resume with cover letter and salary requirements to *keith@gensetservices.com* **EGSA Certified Technicians Preferred.**

Power Solutions Manager – Generac Power Systems- North America

Provide technical sales support of Generac Industrial products with a focus on Modular Power System (MPS) solutions; assist the Sales Team and Dealers to specify and source Generac products. Additional responsibilities will include conducting training seminars for the electrical engineering community. *www.generac.com*

Generator Set Sales/Service

Experienced sales/service engineer needed by southern California company to sell engine generator sets.
Please respond to *J.Kellough@EGSA.org* (Reference PLND06JB-1).

EGSA JOB BANK

Generator Sales

Cooper Power Systems, a New Jersey, New York based Kohler Generator Distributor for more than 40 years, has immediate openings for qualified Salespeople at our New Jersey and Long Island, NY locations. We offer a competitive compensation package, health benefit plan, vacation. Please send your resume and salary requirements to *greg.seres@cooper-electric.com*

Regional Field Service Manager

Join the industry's fastest growing Light Tower, Generator, Water Trailer and Diesel-powered Pump Company. Our team is dedicated to providing the best solutions, customer service and technical support in the industry.

A working knowledge of mechanical design and electronics required; strong communication and trouble shooting skills preferred. Compensation and benefit package include: base salary + commission, medical, dental, vision, 401K and vehicle. Extensive travel is required.

Western Region – WA, OR, CA, NV, AZ, CO, UT
Gulf States Region – OK, AR, LA, TX, NM
Please send resume to jdavids@m-p-llc.com or
Attn: Julie Davids 215 Power Dr. Berlin, WI 54923
www.m-p-llc.com

Power Generation Equipment Sales Person

Kentech Power is looking for a full-time Power Generation Equipment Sales Person. Potential candidates should possess previous sales experience, preferably in the Power Generation Equipment Field. They must be highly motivated and customer focused. They must be willing to work in the San Antonio / Austin area. Interested candidates should send their resume through our website at *www.kenterchpower.com* or by fax to 210-946-2473.

Pump Product Manager

Join the industry's fastest growing Light Tower, Generator, Water Trailer and Diesel-powered Pump Company. Our team is dedicated to providing the best solutions, customer service and technical support in the industry.

This position is responsible for the development, planning and marketing of new product and product enhancements for Magnum's Pump line. This will involve managing all aspects of the product lifecycle, defining product vision, gathering and prioritizing product and customer requirements. This position will ensure pump performance is inline with customer expectations, revenue goals and overall company strategy and objectives. Complete benefit package offered.

Please send resume to *jdavids@m-p-llc.com* or
Attn: Julie Davids 215 Power Dr. Berlin, WI 54923
www.m-p-llc.com

Engineering Manager - Generac Power Systems - Whitewater, WI

Provide strategic vision for a key product line in a fast-paced environment. This team leader will have the freedom to build a cross functional project team, create the project execution plan, and then execute the plan. Must have at least 8 years of engineering experience, have managed a team, and have a BS in a Technical Engineering Discipline.

Emergency Generator Sales

We are growing! Genset Services, Inc. the top tier industrial distributor for Generac generators in South Florida has an opening for an outside salesperson. Candidates should have a minimum of 6yrs sales experience in emergency power equipment or in a similar or related field. We offer a competitive compensation package that includes a base salary plus commissions, car allowance, health insurance, vacation and investment plan. Please forward your resume with cover letter and salary requirements to *matt@gensetservices.com*

Sr. Product Engineer

Marathon Electric is looking for a Sr. Product Engineer in our Wausau, Wisconsin headquarters. Marathon is a manufacturer of generators widely used in the Power Generation Industry. Responsibilities: Assist customers with application, sizing, specification review and quotation of generators, project leader on customer projects and product development. Conduct internal and external training of customers, prepare reliability studies, service procedures, installation manuals, technical papers. Qualifications: Strong interpersonal and communication skills. Bachelors degree in Electrical or Mechanical Engineering (Electrical preferred) and 5 years engineering, technical / field service or sales experience in motor, generator, or genset business. Email resume to *chuck.wirsbinski@marathonelectric.com*

Young Touchstone, a Wabtec company, is a global leader in heavy duty heat transfer components and systems. We are looking for a Sales Manager to lead our network of Sales Representatives across the US and Canada, from our office in Oak Creek, WI.

Responsibilities include managing sales assoc- iates, developing and implementing strategic selling plans, and building internal and external relationships to achieve profitable sales growth.

Qualifications include a Bachelors Degree and 7-10 years of successful sales or engineering work experience. Heat transfer product and/or customer knowledge in the power generation and industrial markets is preferred. 15-25% Travel.

To apply for this position, please send resume to:

Young Touchstone
A Wabtec company

Director of Human Resources
Young Touchstone
200 Smith Lane
Jackson, TN 38301

Or by email to: *adeakins@wabtec.com*

Generator Technicians

Due to our continued growth, Central Power Systems & Services, Inc. has immediate openings for Generator Technicians at several of our Missouri, Kansas and Oklahoma facilities. We offer a strong base wage and a full benefit package (including FREE MEDICAL & LIFE insurance) and PAID RELOCATION depending on skill set. Fax a cover letter, salary requirements and your resume to 816-781-4518 or e-mail it to *jobs@cpower.com* EOE **EGSA Certified Technicians Preferred.**

Generator Sales Rep

Generator Company seeking qualified sales person in the Central Florida/Lakeland area. Must be knowledgeable in the generator sales area; computer knowledge a must. Must be reliable and a self starter and be able to work independently once training is completed. Email resume to *skapparos@suregen.com*

Generator Field Technician

PM Technologies, LLC has several immediate openings for Generator Technicians. We are located and operate in Michigan, Ohio and Northern Indiana. High School diploma or equivalent a must. Military experience a plus. Must be able to troubleshoot and repair the engine (diesel and gaseous) as well as the generator end. Customer interaction will be required on a daily basis. We need highly motivated, self sufficient people to assist in growing our expansion efforts at new branch locations. Benefits include company vehicle, 401k, health, dental and vision coverage's as well as paid bonuses for new account procurement. Fax resumes to 248.374.6408 or email to *dpopp@pmtech.org* **EGSA Certified Technicians Preferred.**

Experienced Power Generation Technicians Wanted!

Penn Power Systems, leaders in the power generation business, is actively seeking experienced field service technicians for open positions in our upstate New York and Pennsylvania locations. Candidates should be familiar with natural gas and diesel prime movers with industry experience and knowledge of systems and controls. Penn Power Systems and its divisions offer industry competitive salaries, medical, 401(k), and vacation benefits. All interested parties should send resumes and work related history to *jobs@pennpowersystems.com* or call 1-877-736-4473. **We Proudly Employ EGSA Certified Generator Technicians.** EOE M/F/D/V

Level A Service Technicians Power Systems and On Highway

Foley, Inc., one of the nation's leading dealers of Caterpillar equipment, serving Northern and Central NJ, Staten Island & Bermuda, is currently seeking qualified Technicians to perform repairs and preventative maintenance on: Highway engines CAT and non CAT; Truck and Bus chassis; Industrial, Rail and Marine engine applications; ATS and Switchgear. Requires excellent mechanical ability, valid NJ driver's license, min. 5 years' industry experience and computer skills. Our goal is to be "The Unbeatable Business Partner" for our customers' success in the industries we serve. Everyone at Foley is strongly committed to this goal. EOE/AAP. Interested parties please apply online: *www.foleyinc.com*

MIRATECH Names Greg Laemmer Central Region Power Gen Sales Manager

MIRATECH Corporation, a leading designer and manufacturer of emission control products, has named Greg Laemmer Central Region Sales Manager in its Power Generation Division.

Laemmer's appointment is a return to MIRATECH, where he served in the same position until 2009, when he accepted a position as Sales Engineer - Engineering Services, Power Systems with Patten Industries, a major Caterpillar dealership based in Elmhurst, IL. He has also worked for Cummins NPower, headquartered in White Bear Lake, MN, and Cummins Onan Illinois, headquartered in Hodgkins, IL. Laemmer holds two B.A. degrees from Valparaiso University and worked as a tennis professional before embarking on his career in the power generation industry.

Laemmer's appointment is great news for both MIRATECH and its customers, said David Zenthoefer, MIRATECH Vice President of Sales and Marketing.

"As we continue to enhance the responsive, reliable customer services MIRATECH is known for, we need to have key point-people who are knowledgeable, personable and customer-focused — qualities Greg Laemmer has amply demonstrated throughout his career. We're pleased to have him back on our team," Zenthoefer said. For information, visit *miratechcorp.com.* ■

Cummins selling exhaust business to Global Tube

Cummins Inc. announced that it has entered into an agreement to sell its exhaust business to Global Tube, a portfolio company of Wind Point Partners, a private equity firm headquartered in Chicago, IL. The sale to Global Tube affects Cummins' acoustic exhaust operations in Stoughton, Arcadia, Black River Falls and Viroqua, all in Wisconsin, as well as in Scoresby, Australia and Daman, India.

Terms of the deal were not disclosed. Cummins' exhaust operations are part of the company's Emission Solutions business, which specializes in providing a range of aftertreatment solutions and technologies to control emissions in diesel engines.

The sale will allow Cummins Emission Solutions (CES) to place greater emphasis and resources on manufacturing products that are a critical part of Cummins' growth strategy. Ever-tightening global emission standards provide Cummins with significant growth opportunities in the development and deployment of aftertreatment technology.

"It is more important than ever for CES to focus on our core business of providing aftertreatment systems and solutions for commercial vehicles," said Srikanth Padmanabhan, Vice President and General Manager – Cummins Emission Solutions. "Selling the exhaust business to a strong buyer like Global Tube will enable us to focus on developing the technologies that will allow CES to continue growing in this vital market." The exhaust business manufactures products such as bent tubes and small mufflers.

"This is a very exciting opportunity for us to invest in a business which is central to our strategy and has significant opportunity for growth," said Thomas Gosnell, Chief Executive Officer of Global Tube. Gosnell, a former executive with Arvin Meritor and Rockwell Automotive and 30 year veteran of the Commercial Vehicle industry, has said that the new business will revive the name Nelson Products, with its headquarters in Stoughton, WI. Nelson is a familiar name in the exhaust business which will be revitalized under the new ownership.

The exhaust business is expected to transfer to Global Tube by the end of March. During the transition period, Cummins will continue operating the business, providing the products and support that customers expect. Cummins and Global Tube are working to ensure a smooth transition for customers, suppliers, employees and the communities where the businesses are located. For information, visit *www.cummins.com.* ■

FOR SALE/RENT
24 / 7 EMERGENCY SERVICE
BOILERS
20,000 - 400,000 #/Hr.
DIESEL & TURBINE GENERATORS
50 - 25,000 KW
GEARS & TURBINES
25 - 4000 HP
WE STOCK LARGE INVENTORIES OF:
Air Pre-Heaters • Economizers • Deaerators
Pumps • Motors • Fuel Oil Heating & Pump Sets
Valves • Tubes • Controls • Compressors
Pulverizers • Rental Boilers & Generators
847-541-5600 FAX: 847-541-1279
WEB SITE: www.wabashpower.com
wabash POWER EQUIPMENT CO.
444 Carpenter Avenue, Wheeling, IL 60090

MINUTEMAN
LOAD BANK
- Ultra-Compact - Only 65 lbs!
- 100 kW Suitcase Style
- Continuously Rated
- Legendary Avtron Quality

EGSA MEMBER SINCE 1988
AVTRON
WWW.LOAD-BANK.COM
(216) 573-7600 • Fax: (216)-573-5953

GATOR BATTERY BOX
Fiberglass Battery Boxes & Trays
Handles 2-8D / 4D Batteries
IN STOCK
Davidson Sales Company
www.davidsonsales.com
CALL (386) 274-2079
(800) 383-2078

ABB completes acquisition of Baldor Electric Company

ABB, a power and automation technology group announces the acquisition of Baldor Electric, a North American leader in industrial motors.

The acquision will increase ABB's penetration of North American markets by building on Baldor's strong presence while, at the same time, facilitating the sale of Baldor's products globally through ABB's worldwide distribution network.

Ron Tucker, Baldor's President and CEO, will be responsible for running Baldor, including its mechanical power transmission products business, as well as ABB's North American motor and generator business. These businesses will be headquartered in Fort Smith, Arkansas, which is Baldor's current headquarters location. Baldor's former Chairman and CEO, John McFarland, will remain with the company to support a successful integration.

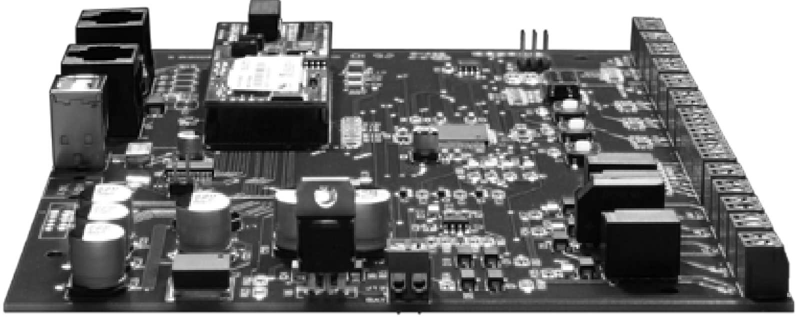
"Today marks a significant step forward in ABB's strategy to become the global leader in the industrial motion market," said Joe Hogan, ABB's CEO. "Baldor has built an excellent reputation through its focus on innovation, quality and service, and we look forward to working together with the Baldor team to deliver solutions that support our customers and deliver on this excellent combination."

Ulrich Spiesshofer, ABB Executive Committee Member responsible for the Discrete Automation and Motion division of which Baldor is now a part, said, "From this point forward we will be working to unleash the full potential of this strategic combination. Together we have an excellent opportunity to serve our customers even better and to build a stronger business than it would be possible to do as separate companies. I am confident that the knowledge, experience and determination of people in both organizations will result in a strong, cohesive team focused on delivering exceptional products and services to our customers in North America while opening new growth opportunities around the world."

"ABB is world renowned for the quality of its products, the skill of its people and the vision of its leaders. We are joining an absolutely top-tier organization with the reach and resources to significantly extend the Baldor brand. As part of ABB's global family, Baldor has a bright future ahead," said Ron Tucker. For more information, visit *www.abb.com*. ■

GENTRACKER
Generator Monitoring System

GENERATOR MONITORING



The last step on the path to
RELIABLE POWER

- Low cost
- Easy to install
- No programming required
- Universal for all generator brands and sizes
- Automatic monthly e-mail to customer
- Remote starts
- Internet-based
- (generator activity documentation)
- Notifications by e-mail and cellular text messaging
- 3 ways to communicate (cellular, phone, ethernet)

Generator Solutions, Inc.

When the grid lets you down,
we bring the grid to you.

With 2000 kilowatts of reliable, portable power, the CQ-2000 from Enginuity Portable Grid will efficiently meet the most stringent power demands - wherever it's needed, whenever it's needed.

This workhorse power module operates in either "Island" or "Utility Export" mode and features full utility class switchgear for added reliability and protection.

EPG has more than 75 MWs of new and used capacity in inventory and offers convenient purchase, lease-purchase or rental options to meet any need - large or small.

The CQ-2000 from EPG.
Comfortably Quiet.

- Lift-top service access
- Side access panels
- Multi-fan cooling system
- 110% spill containment
- 1,250 gallon UL142 tank
- Remote fault diagnostics
- Reliable worldwide 24/7 service
- Max. emissions compliance

Also available:
🟥 CQ-1500 (1500 kW) 🟥 CQ-1000 (1000 kW) 🟥 CQ-800 (800 kW)

EPG
ENGINUITY PORTABLE GRID

We bring the grid to you.

1-800-410-3610 🟥 sales@epginc.us
www.epginc.us

ASCO invites you to compare power switching and controls SUPPORT

Demand more from technical support throughout your switchgear's life cycle.

Power switching and controls grow increasingly complex and sophisticated. Digital control technology evolves. Functionality and capabilities broaden.

Technical support is about people helping people with project management and support throughout the on-site power system's life cycle—20, 30 or more years.

A lot happens in 30 years. Codes and standards change. Digital control technology evolves four times or more. Functionality doubles or triples. The demand for more operational control, precision and accuracy never stops.

UPGRADE DESIGN INSTALL OPERATE
ASCO®
SUPPORT

Will the manufacturer you select be able to upgrade your system in 15, 20 or more years? ASCO can. Unparalleled technical support will help ensure your power switching and controls optimize power reliability.

Compare technical support capabilities. Then prefer ASCO and receive technical support that comes full circle throughout your system's entire life cycle.

Contact ASCO. Call (800) 800-ASCO (2726), or visit ascopower.com or ascoapu.com.

ASCO Power Switching & Controls
Just another reason why Emerson Network Power is the global leader in enabling Business-Critical Continuity.™

ASCO®

EMERSON™
Network Power

Emerson, Business-Critical Continuity and ASCO are trademarks of Emerson Electric Co. or one of its affiliated companies. ©2011 Emerson Electric Co. CS98 ASCO Power Technologies

EMERSON. CONSIDER IT SOLVED.™